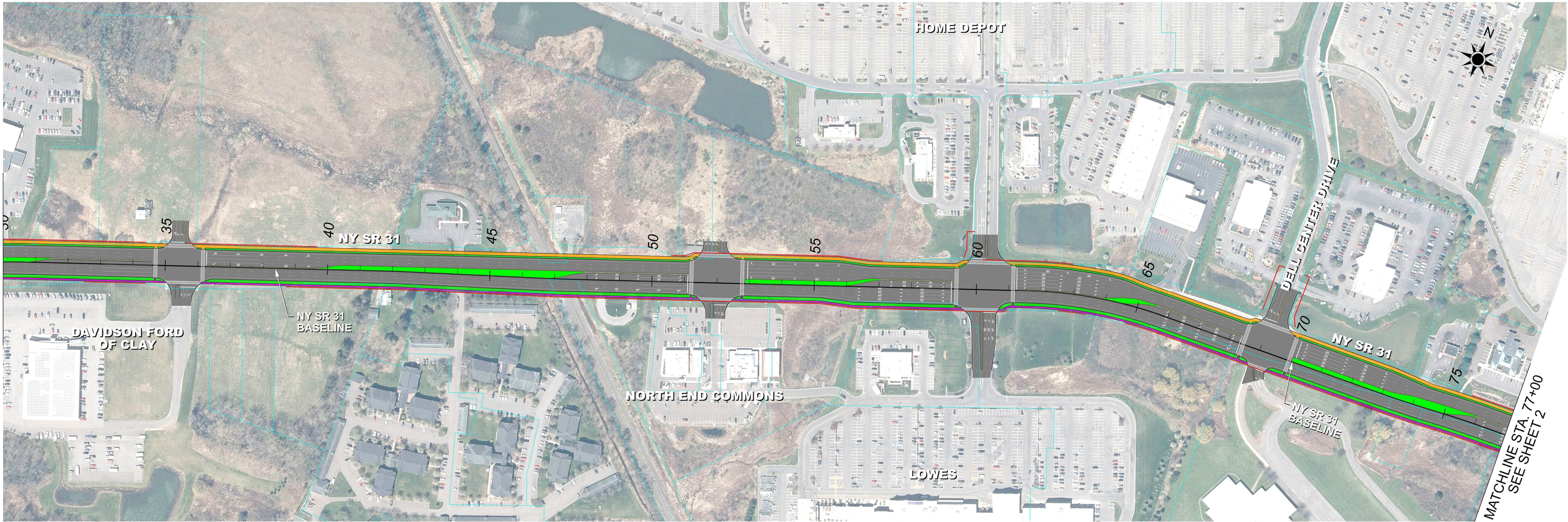




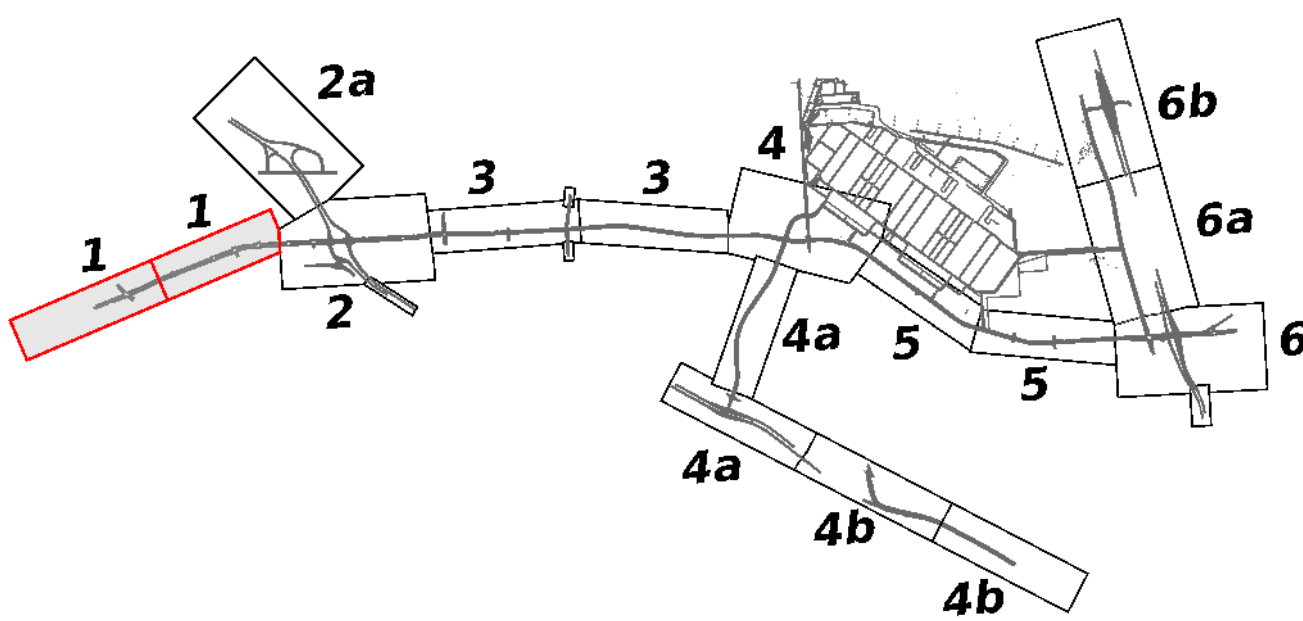
# Micron Semiconductor Fab Project

Clay, New York

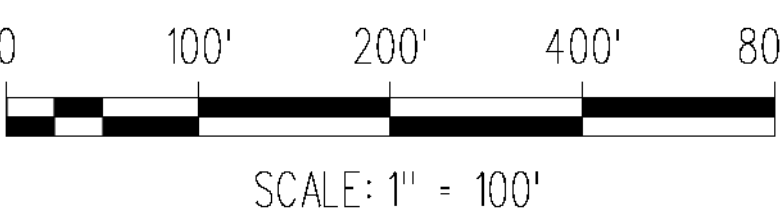
## Legend

- Denotes Proposed Roadway
- Denotes Proposed Bridge
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- Denotes Proposed Sidewalk
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- Denotes Proposed Raised Concrete Median
- Denotes Existing Parcel
- Denotes Proposed Right of Way Line
- Denotes Future Site Plan or Construction

## Key Map



## Scale

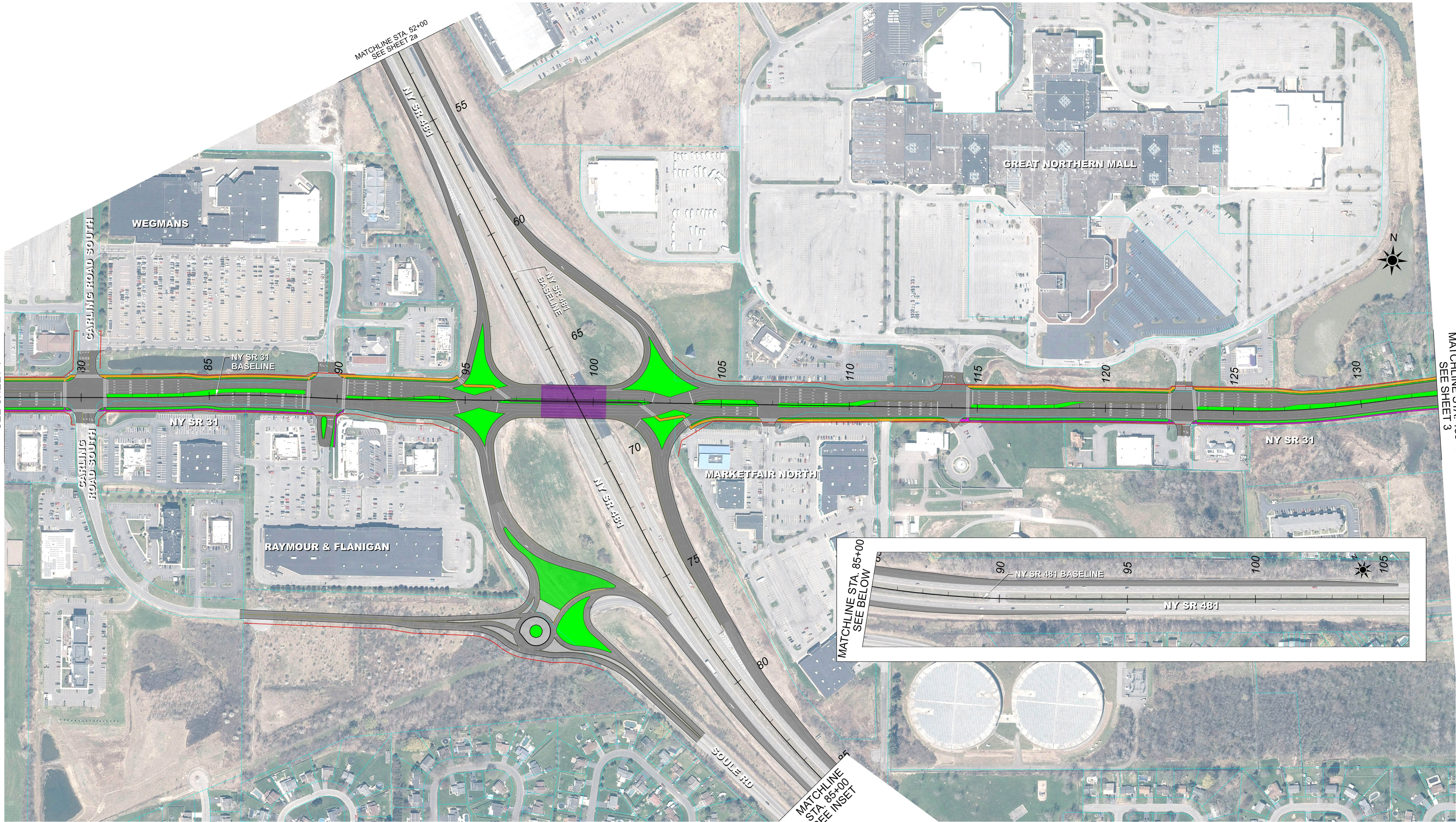


## Sheet Number

1



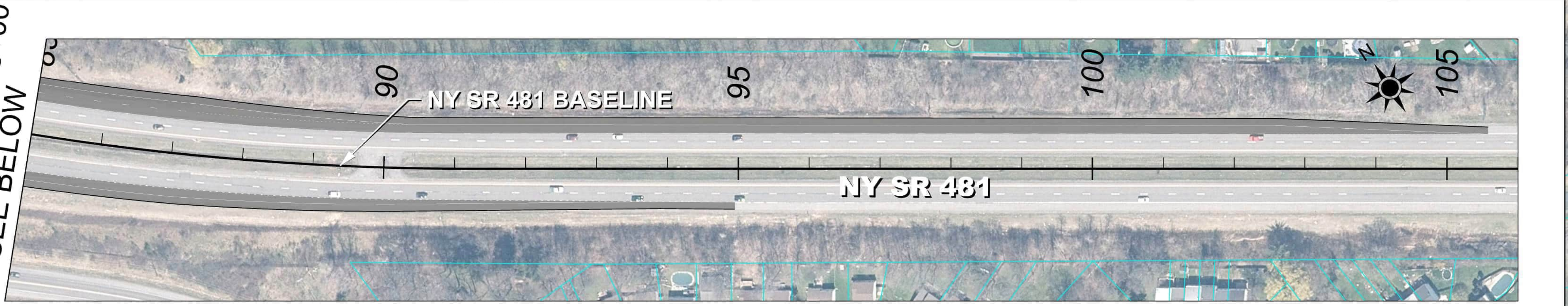
MATCHLINE STA. 77+00  
SEE SHEET 1



MATCHLINE STA. 52+00  
SEE SHEET 2a

MATCHLINE STA. 133+00  
SEE SHEET 3

MATCHLINE STA. 85+00  
SEE BELOW



MATCHLINE  
STA. 85+00  
SEE INSET



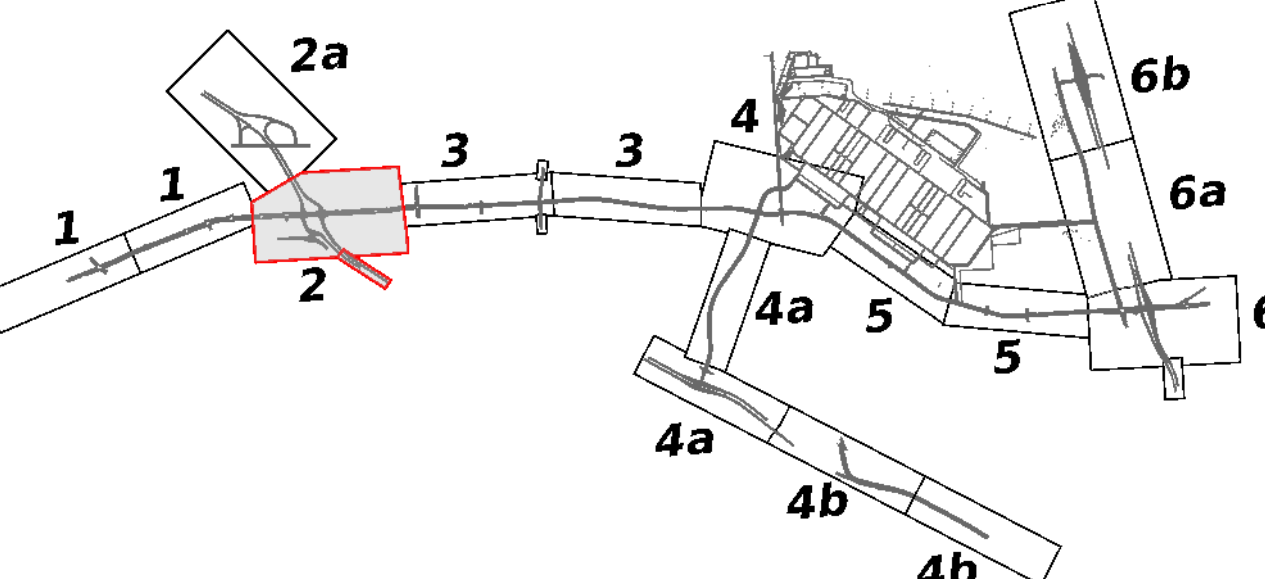
# Micron Semiconductor Fab Project

Clay, New York

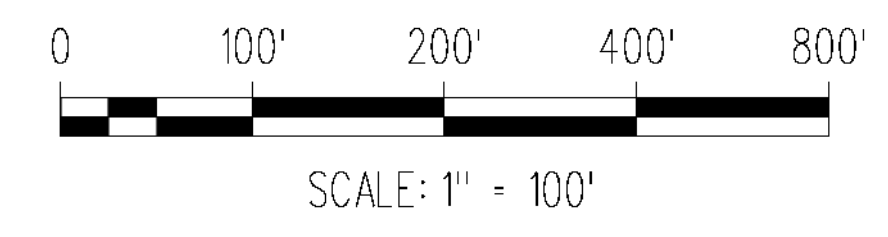
## Legend

- Denotes Proposed Roadway
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- Denotes Proposed Raised Concrete Median
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## Key Map



## Scale



## Sheet Number

2

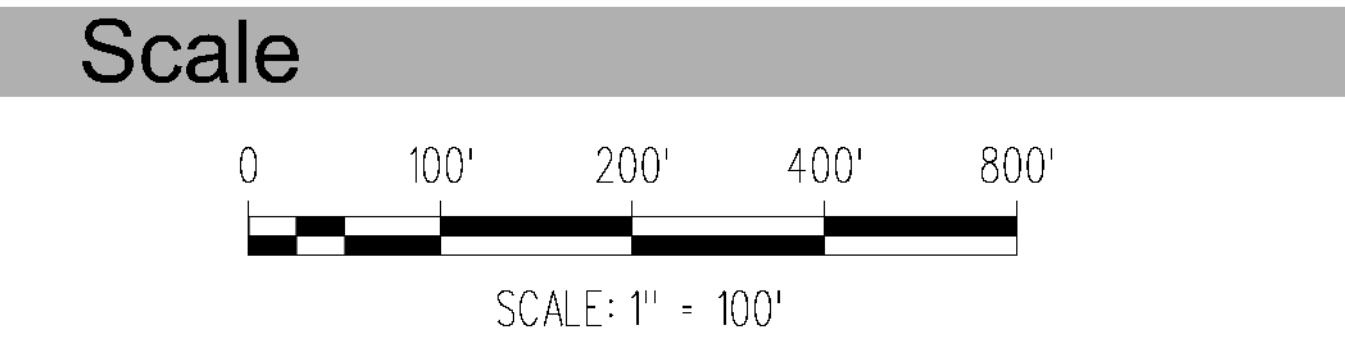
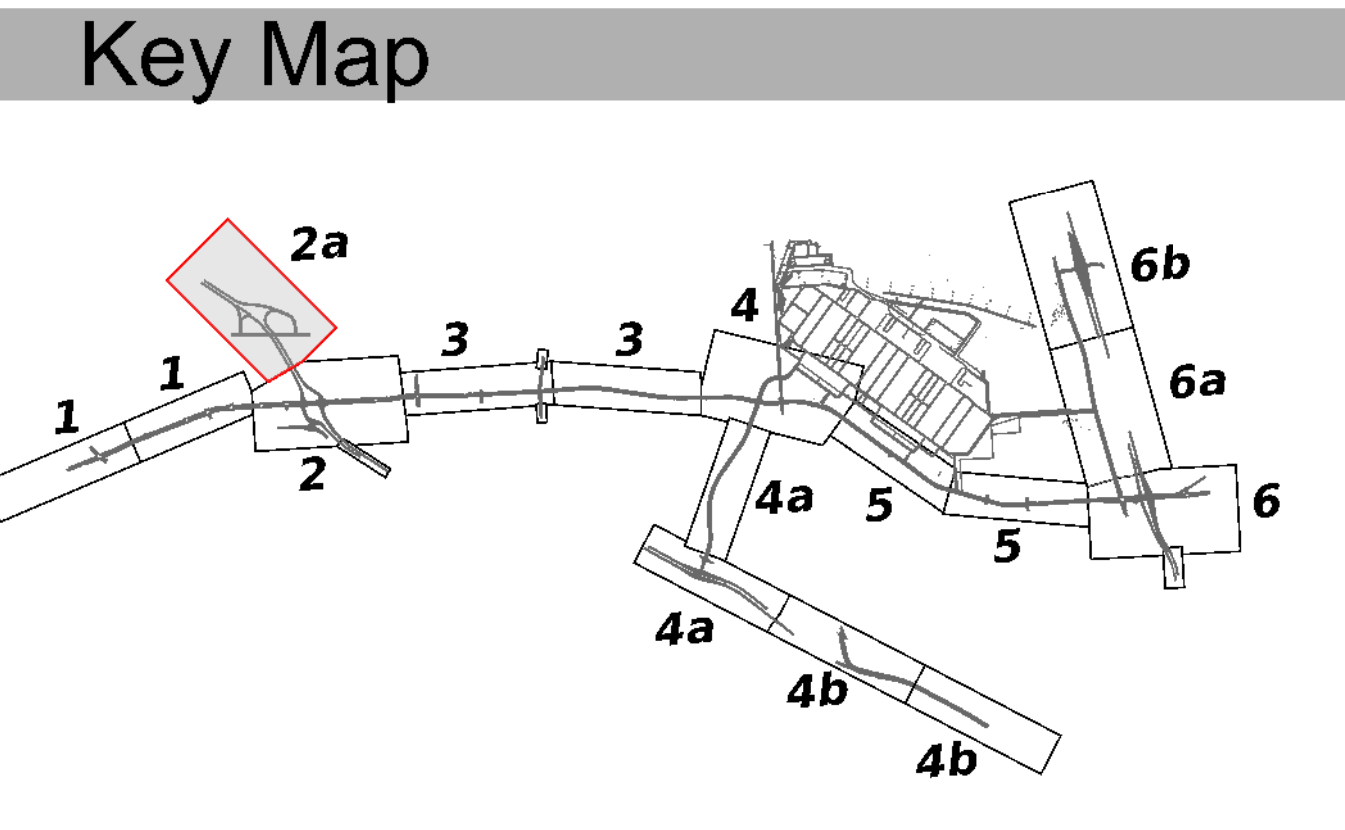




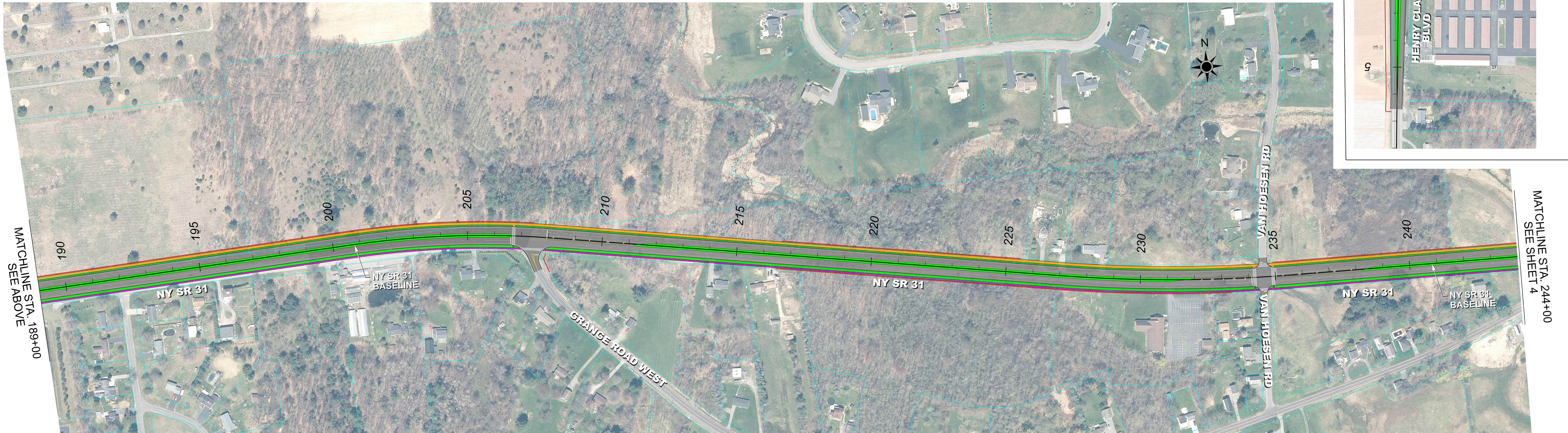
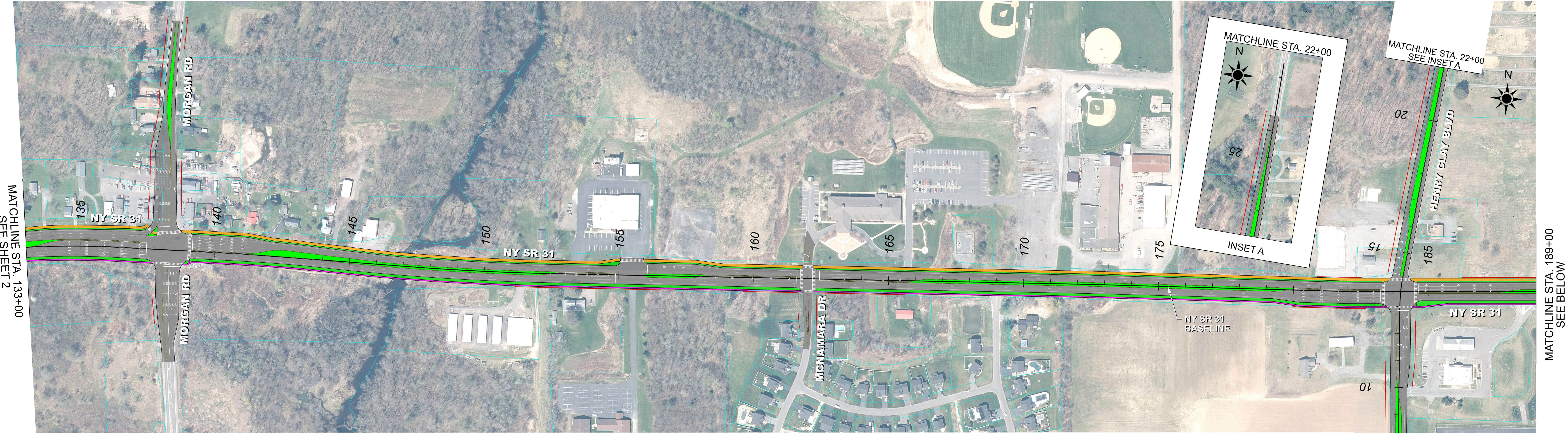
# Micron Semiconductor Fab Project

Clay, New York

- Legend
- Denotes Proposed Roadway
  - Denotes Proposed Bridge
  - Denotes Proposed Shared Use Path
  - Denotes Proposed Sidewalk
  - Denotes Proposed Snow Storage Grass Buffer
  - Denotes Proposed Raised Grass Median
  - Denotes Proposed Raised Concrete Median
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  - Denotes Future Site Plan or Construction



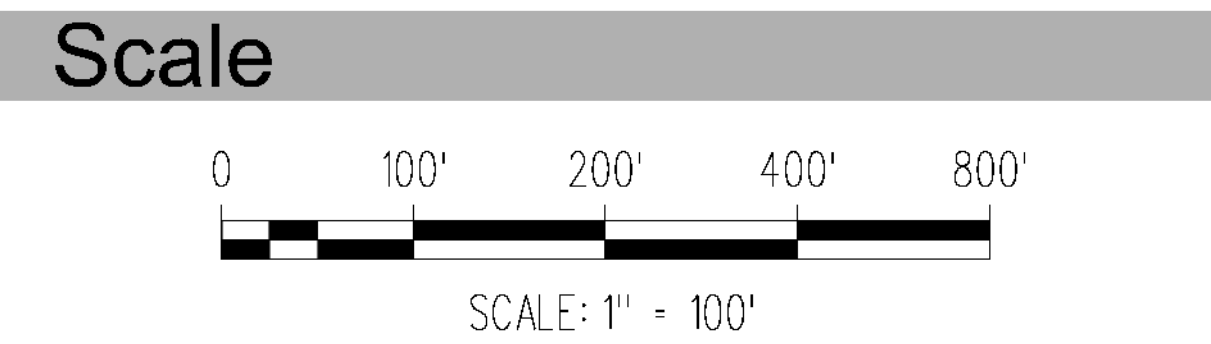
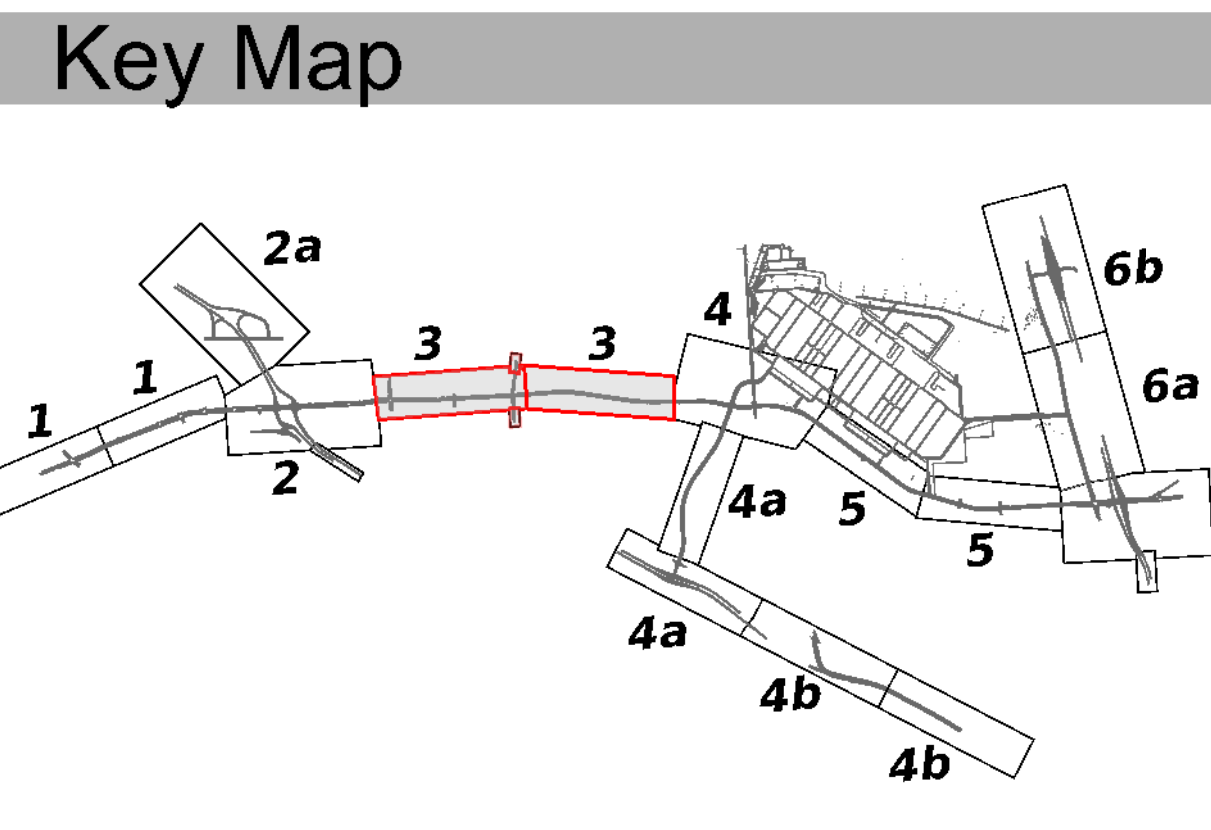




# Micron Semiconductor Fab Project

Clay, New York

- Legend
- Denotes Proposed Roadway
  - Denotes Proposed Bridge
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  - Denotes Proposed Raised Grass Median
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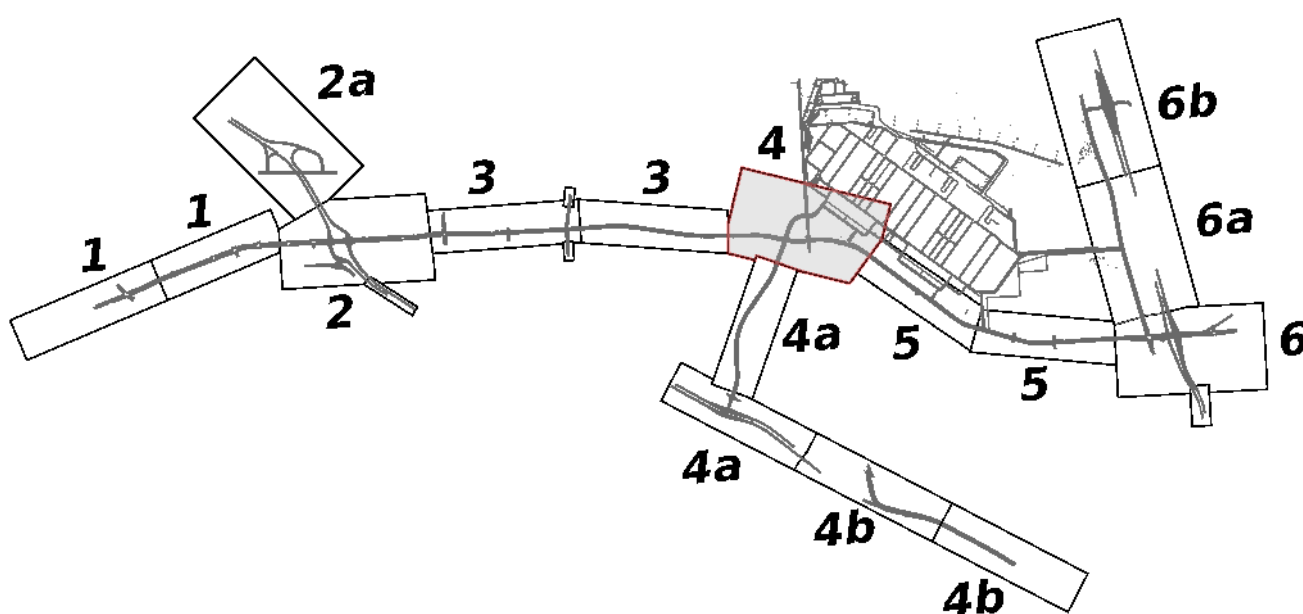
# Micron Semiconductor Fab Project

Clay, New York

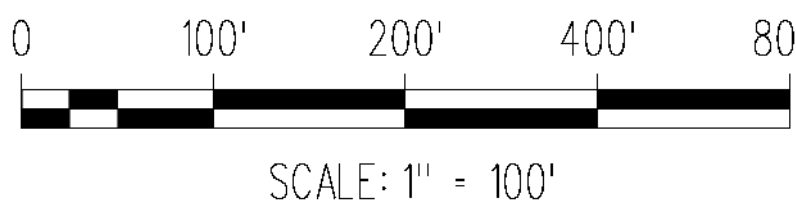
## Legend

- Denotes Proposed Roadway
- Denotes Proposed Bridge
- Denotes Proposed Shared Use Path
- Denotes Proposed Sidewalk
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- Denotes Proposed Raised Concrete Median
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## Key Map



## Scale



## Sheet Number

4



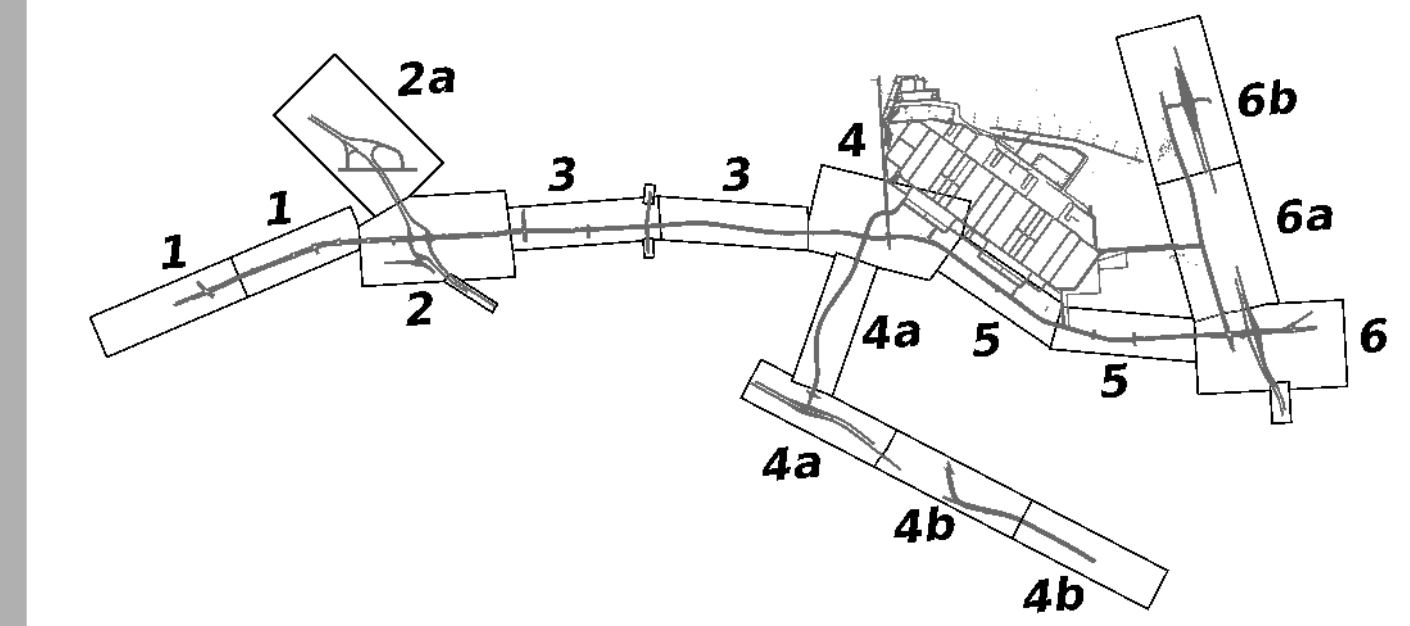
# Micron Semiconductor Fab Project

Clay, New York

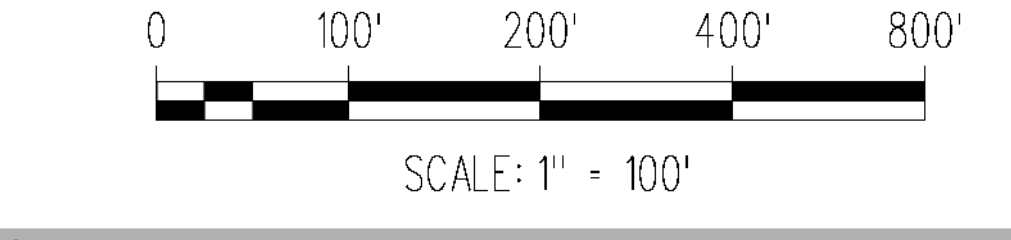
## Legend

- Denotes Proposed Roadway
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- Denotes Proposed Sidewalk
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## Key Map



## Scale



## Sheet Number

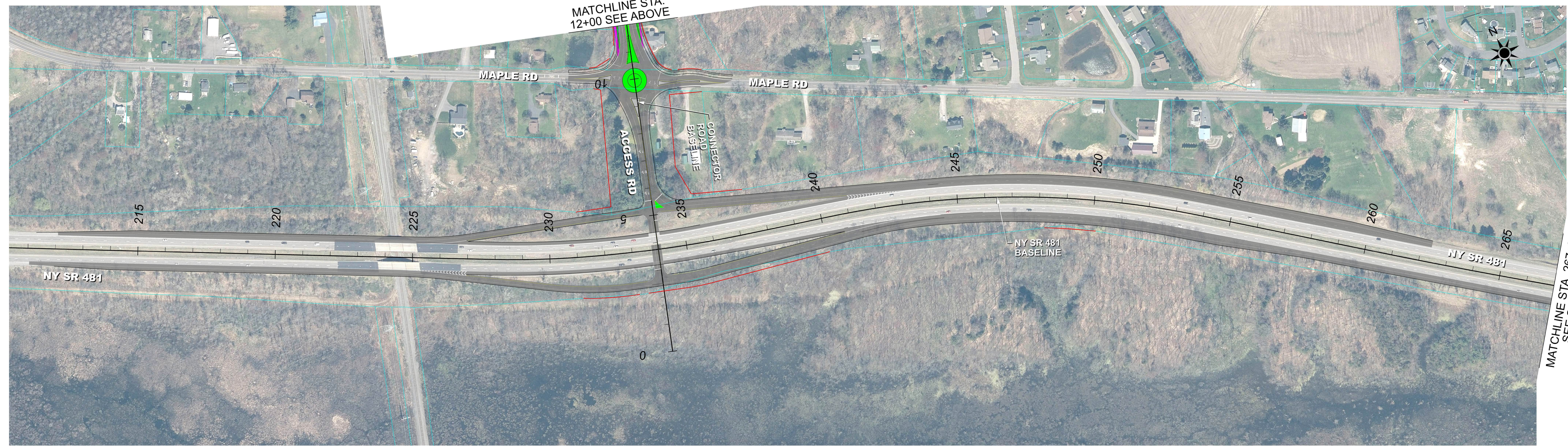
4a

MATCHLINE STA. 12+00  
SEE SHEET 4b



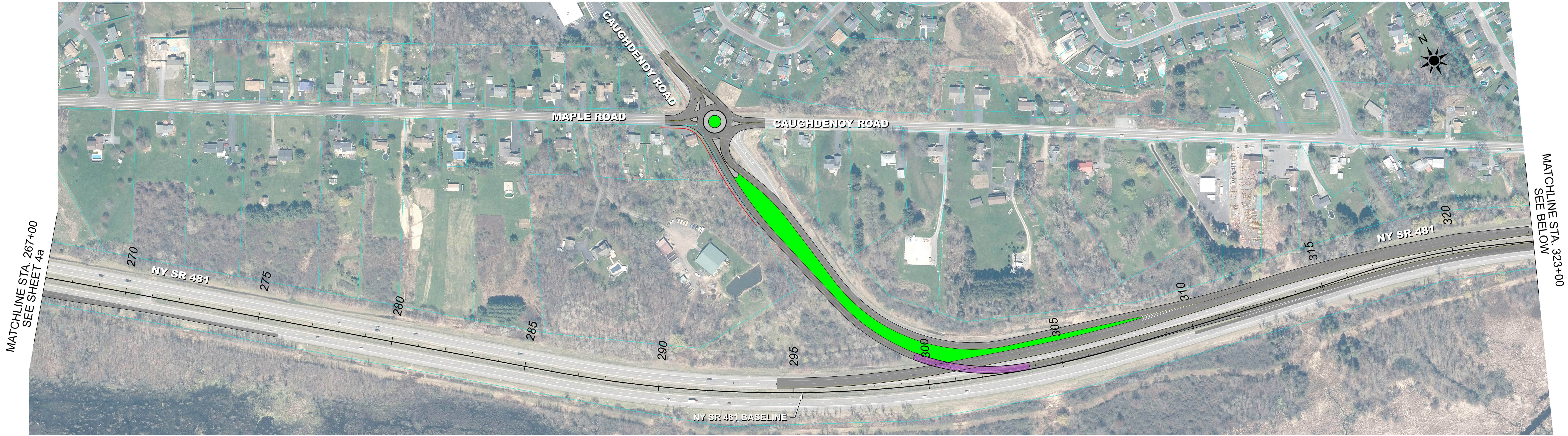
MATCHLINE STA. 64+00  
SEE BELOW

MATCHLINE STA. 12+00  
SEE ABOVE



MATCHLINE STA. 267+00  
SEE SHEET 4b





Department of Transportation

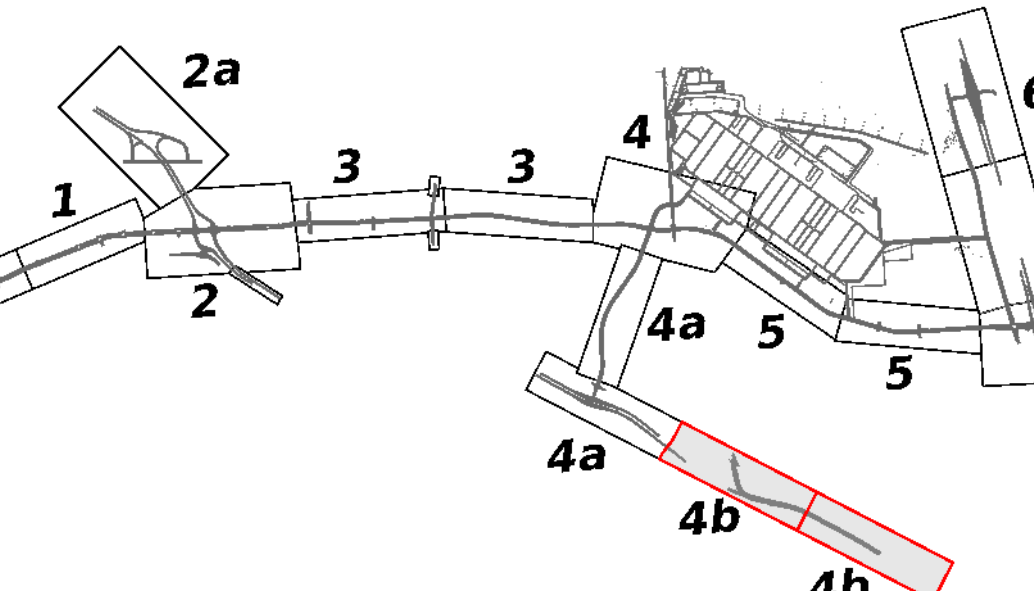
# Micron Semiconductor Fab Project

Clay, New York

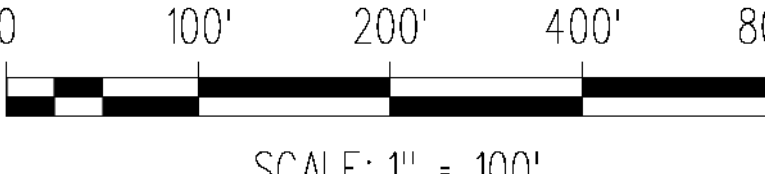
## Legend

- Denotes Proposed Roadway
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## Key Map



## Scale



SCALE: 1" = 100'

## Sheet Number

4b





Department of Transportation

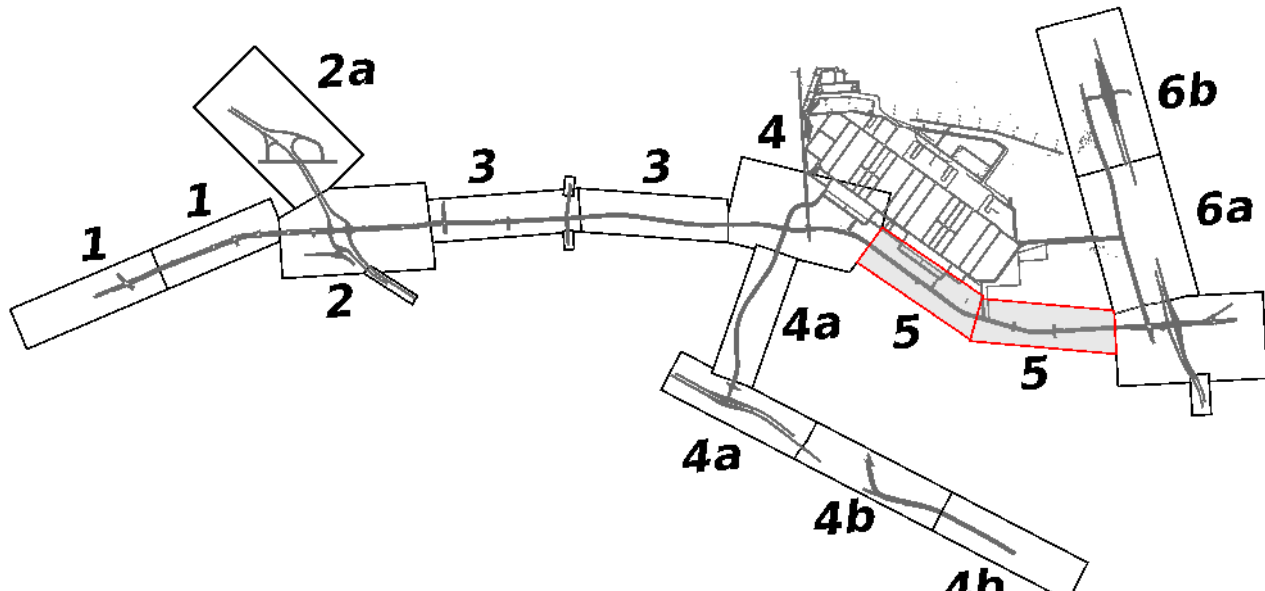
# Micron Semiconductor Fab Project

Clay, New York

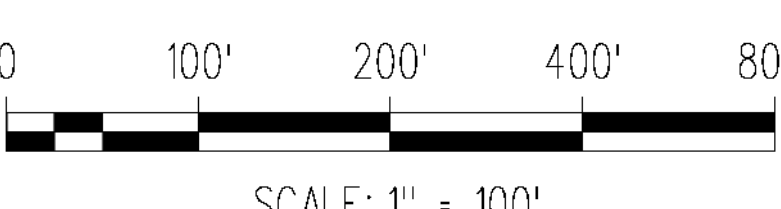
## Legend

- Denotes Proposed Roadway
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## Key Map

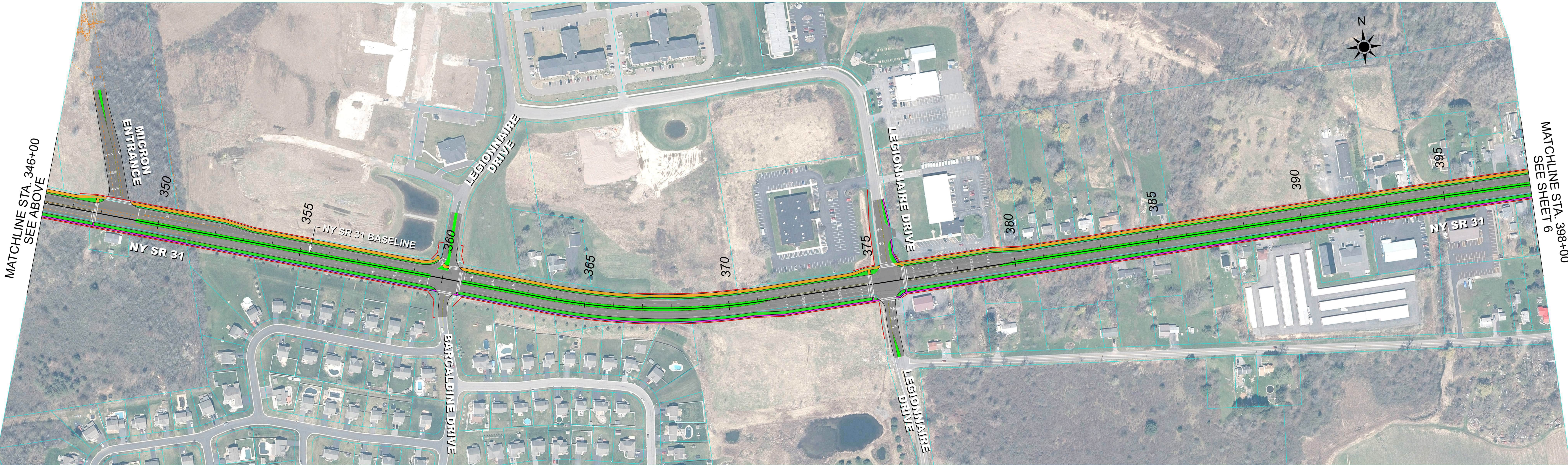
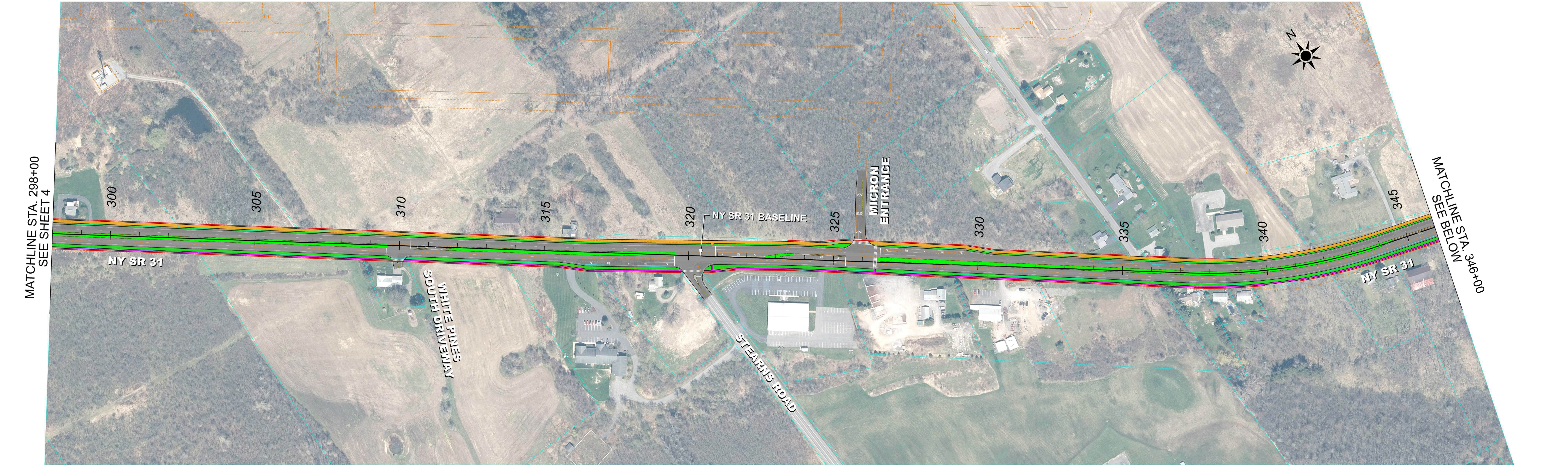


## Scale



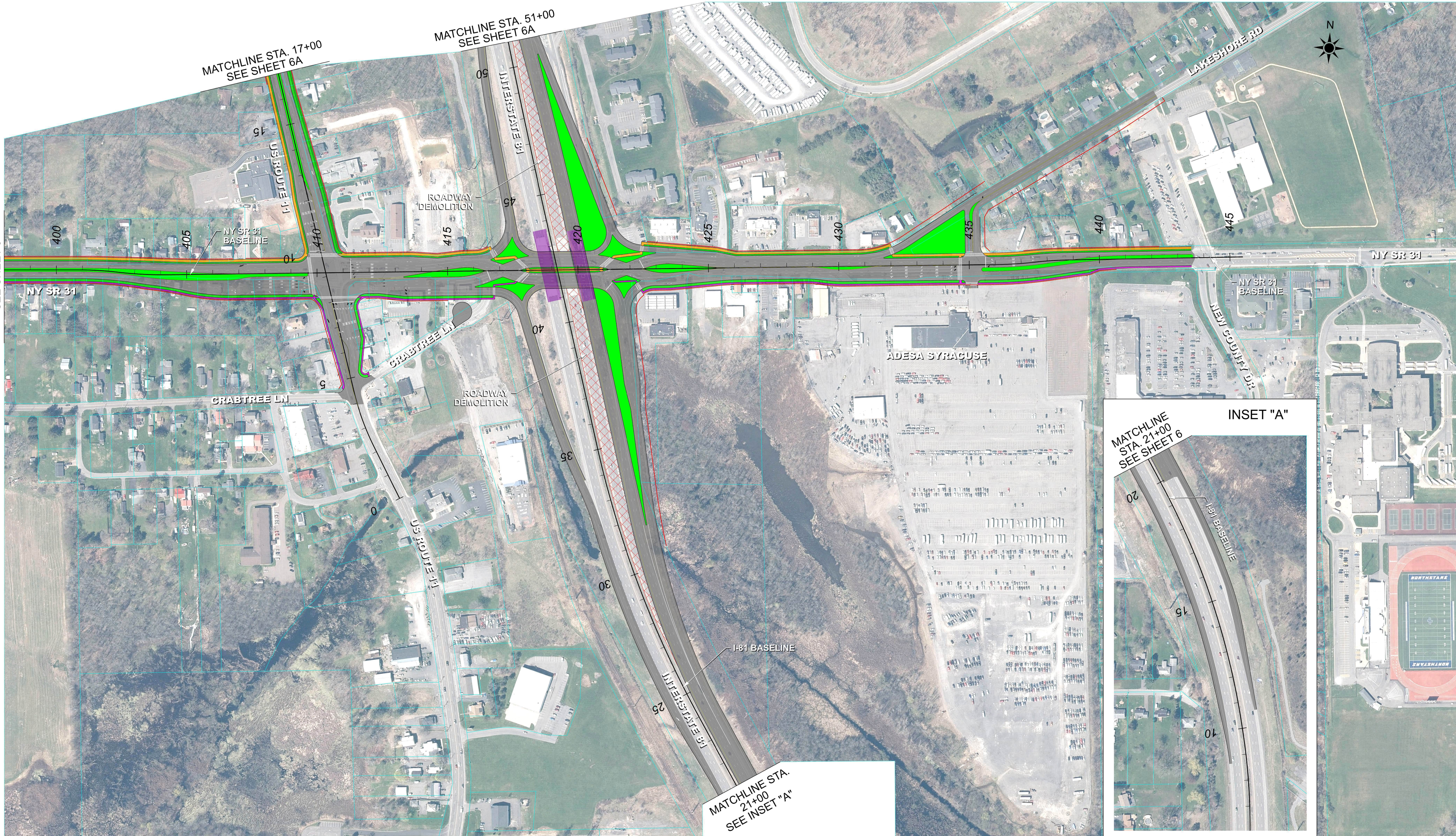
## Sheet Number

5





MATCHLINE STA. 398+00  
SEE SHEET 5



Department of Transportation

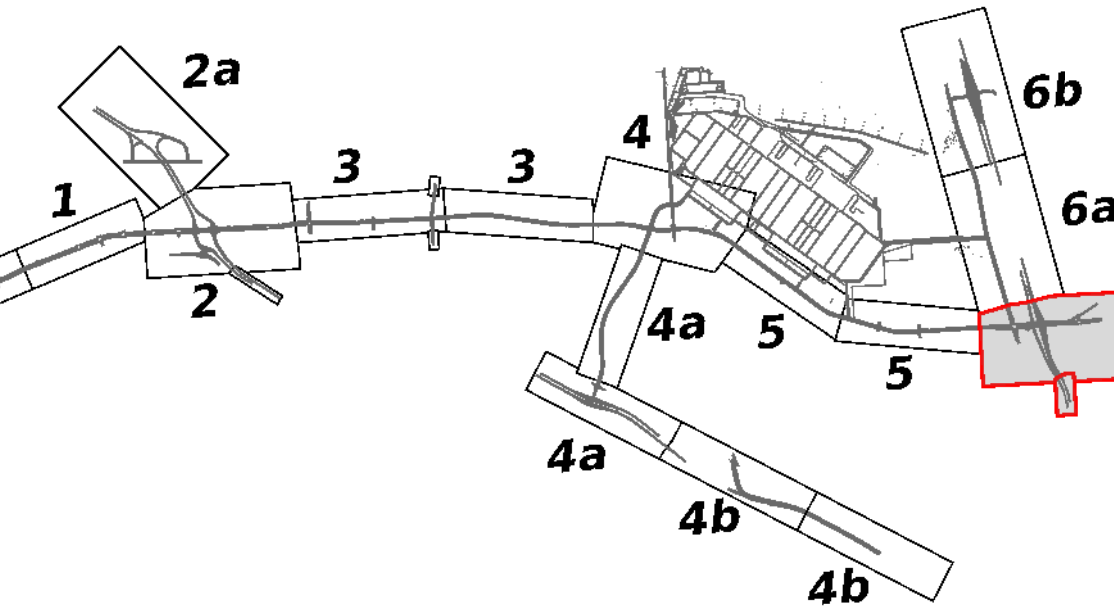
# Micron Semiconductor Fab Project

Clay, New York

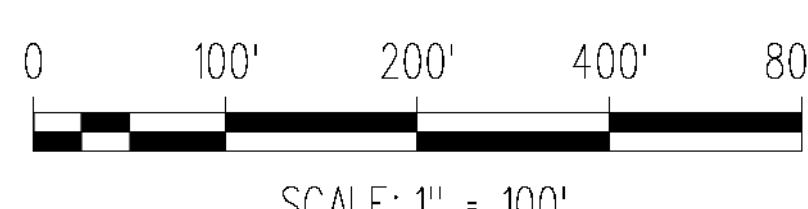
## Legend

- Denotes Proposed Roadway
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## Key Map



## Scale



Sheet Number





Department of Transportation

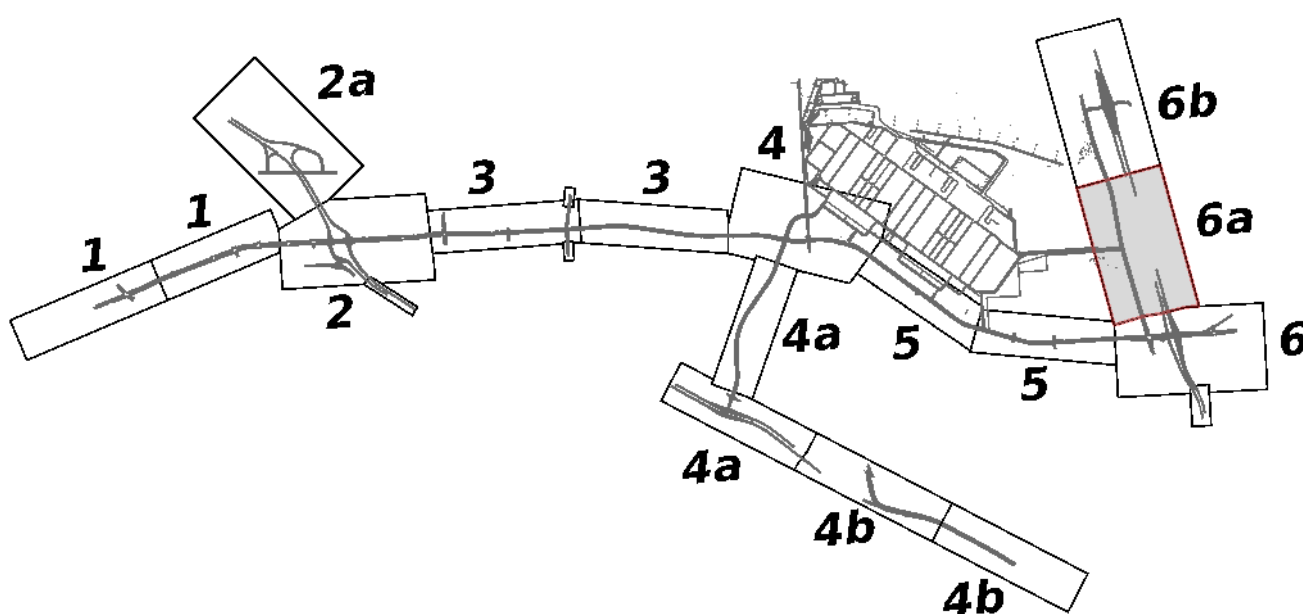
# Micron Semiconductor Fab Project

Clay, New York

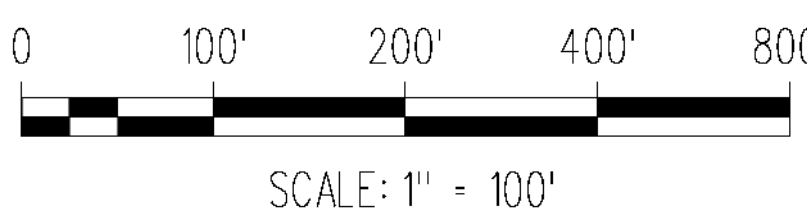
## Legend

- Denotes Proposed Roadway
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## Key Map



## Scale



## Sheet Number

6a



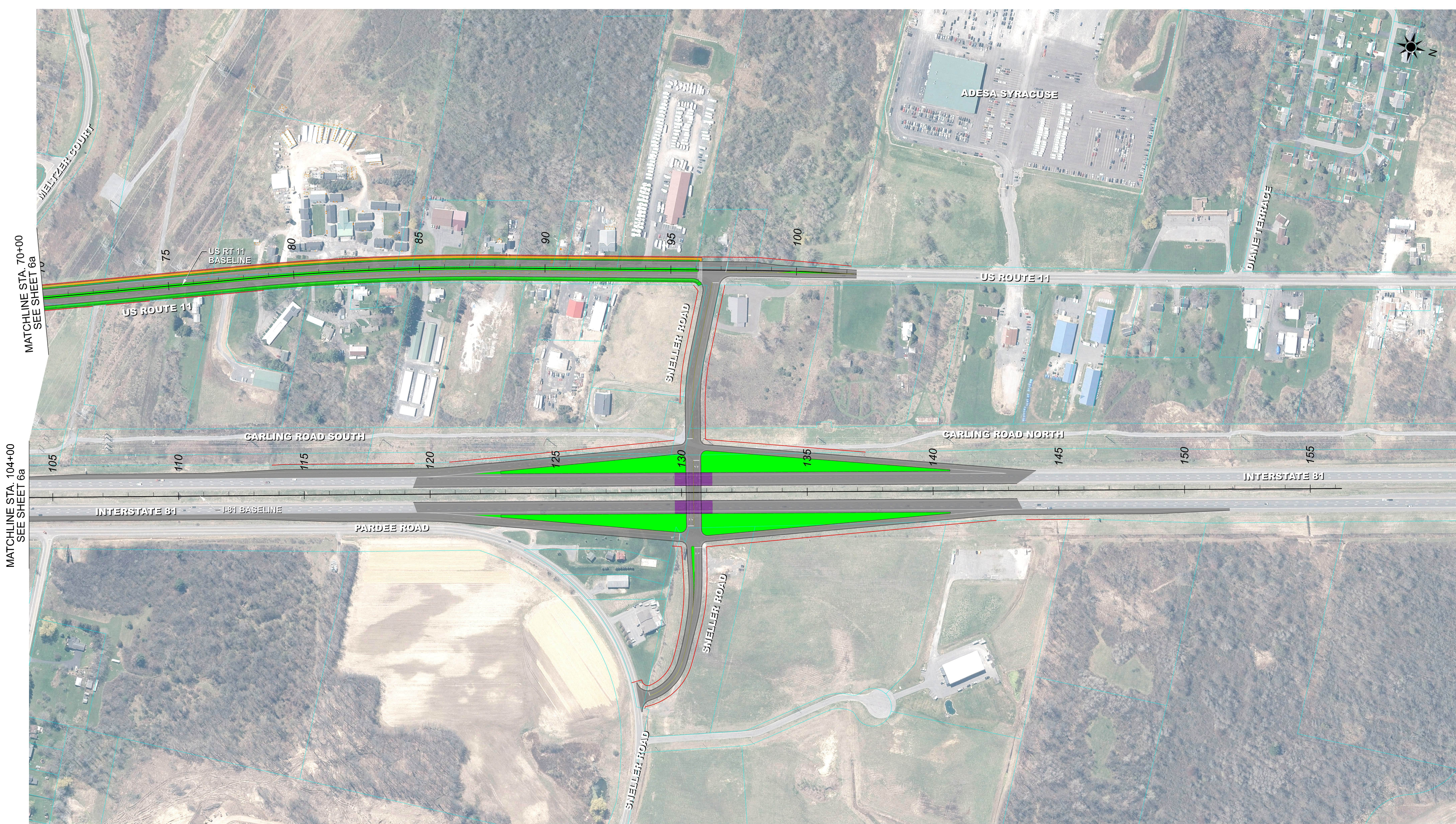
MATCHLINE STA. 17+00  
SEE SHEET 6

MATCHLINE STA. 70+00  
SEE SHEET 6B

MATCHLINE STA. 104+00  
SEE SHEET 6B

MATCHLINE STA. 51+00  
SEE SHEET 6





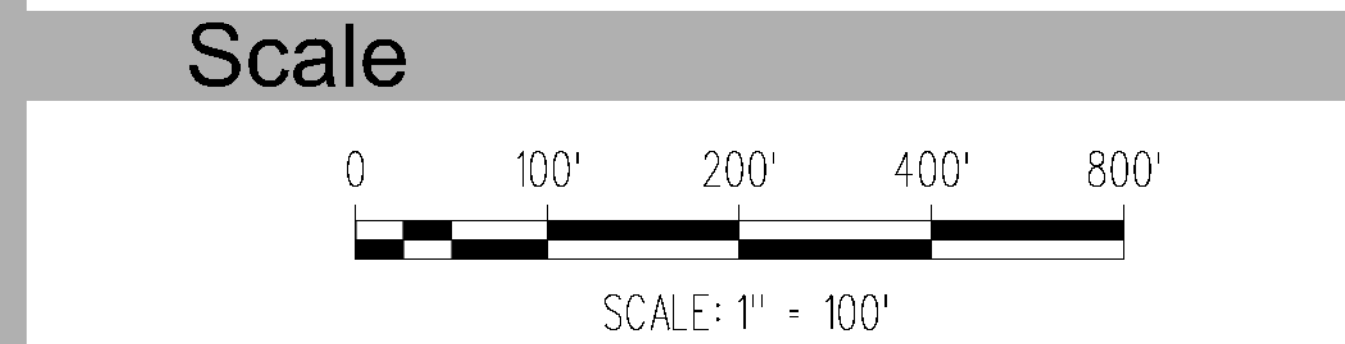
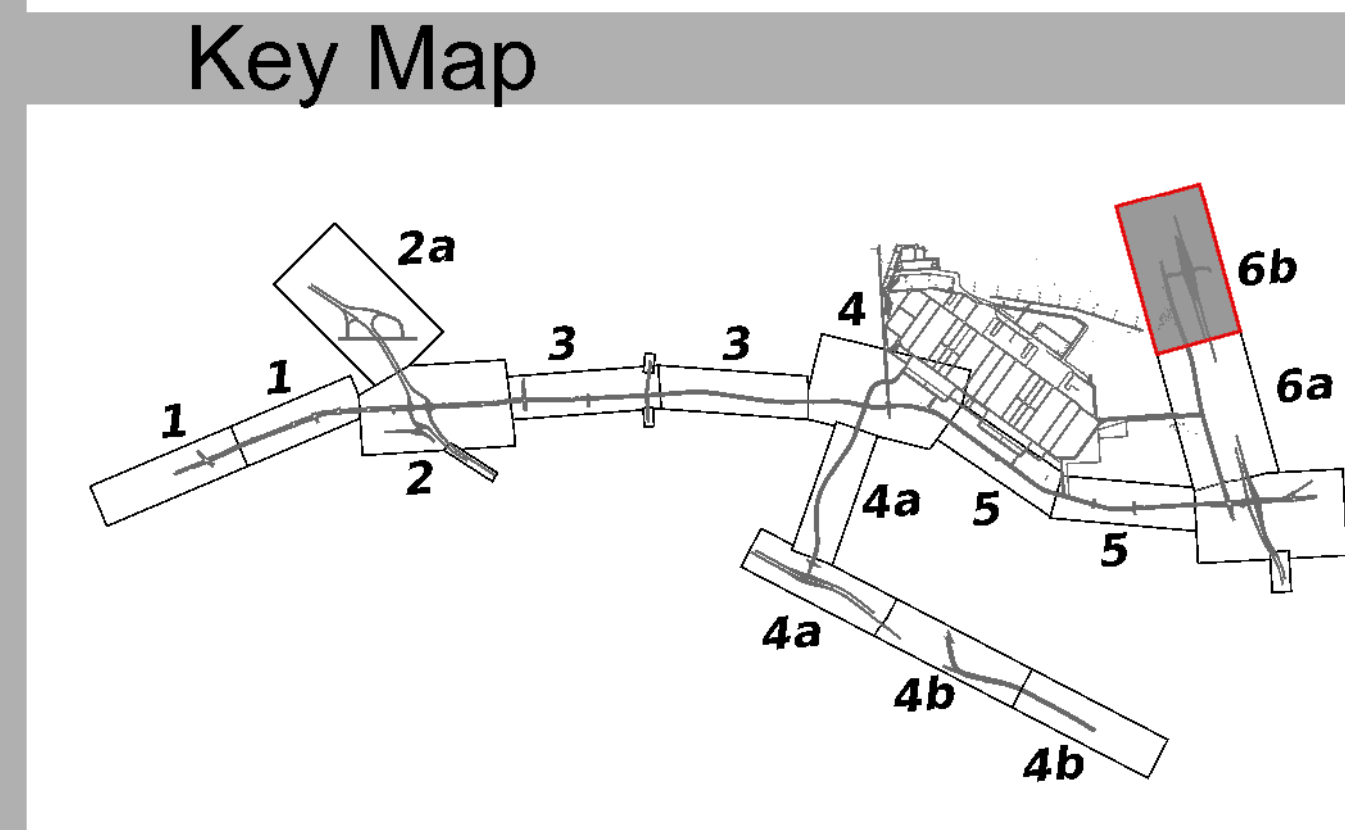
MATCHLINE STA. 70+00  
SEE SHEET 6a

MATCHLINE STA. 104+00  
SEE SHEET 6a

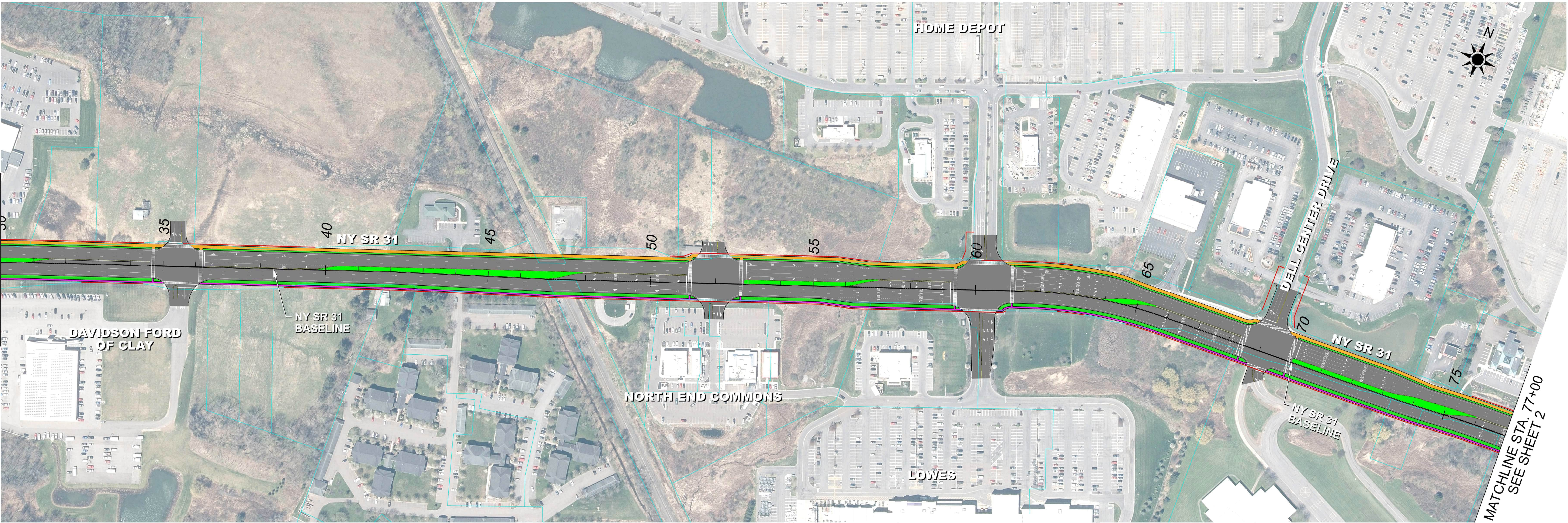
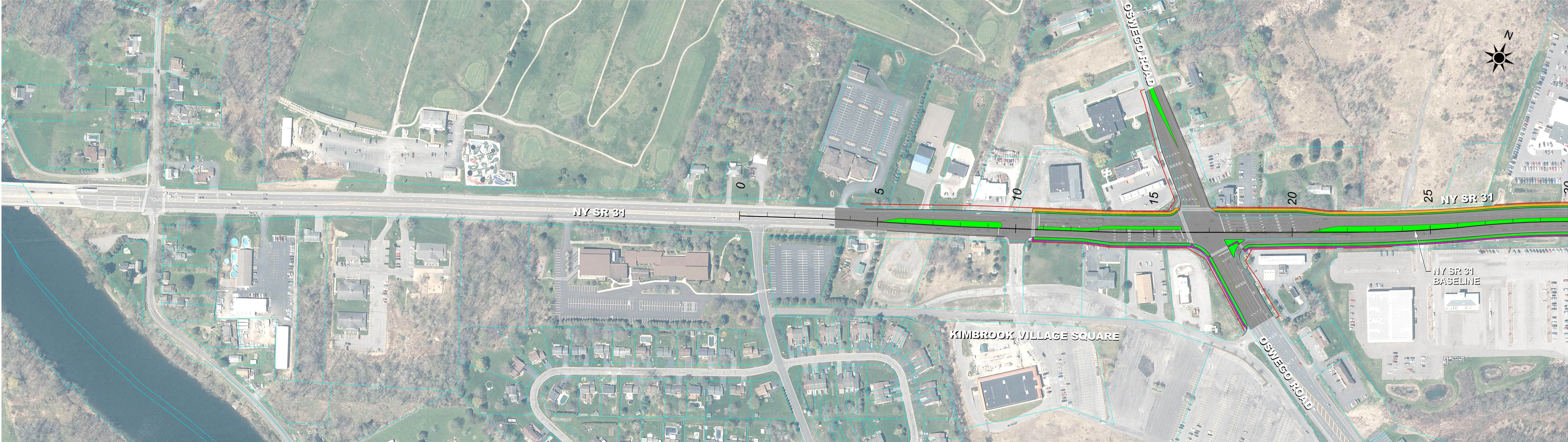
# Micron Semiconductor Fab Project

Clay, New York

- Legend**
- Denotes Proposed Roadway
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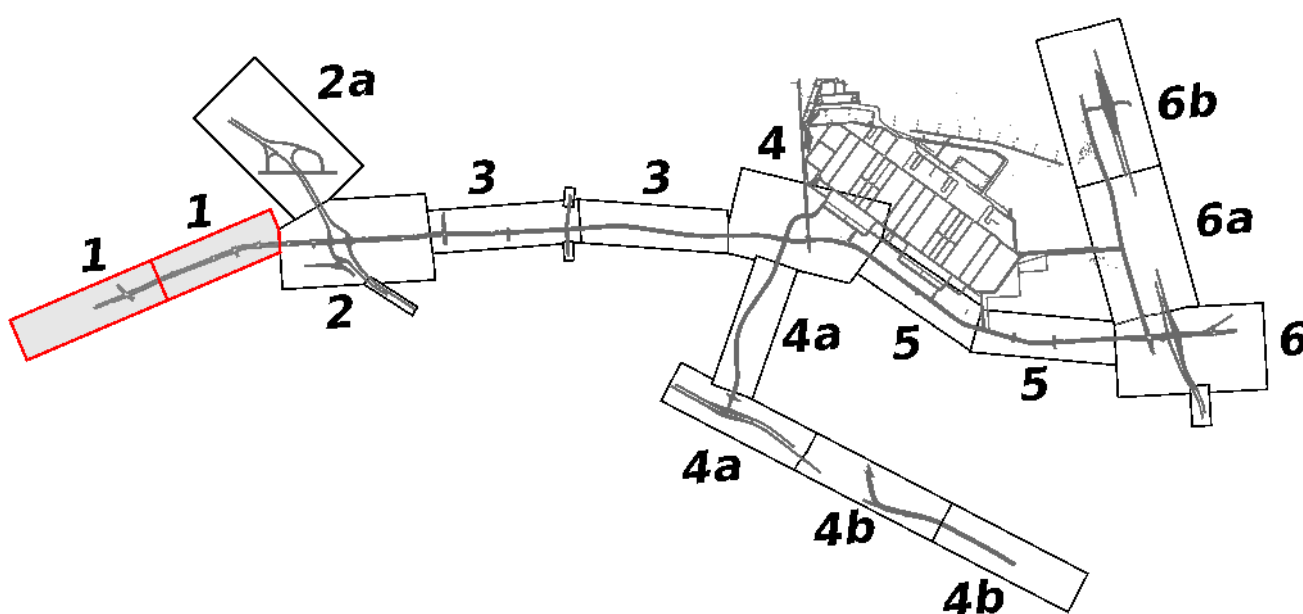
# Micron Semiconductor Fab Project

Clay, New York

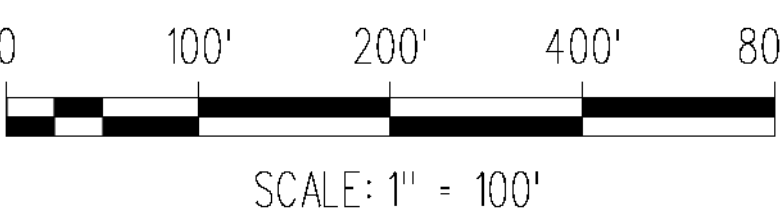
### Legend

- Denotes Proposed Roadway
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### Key Map



### Scale

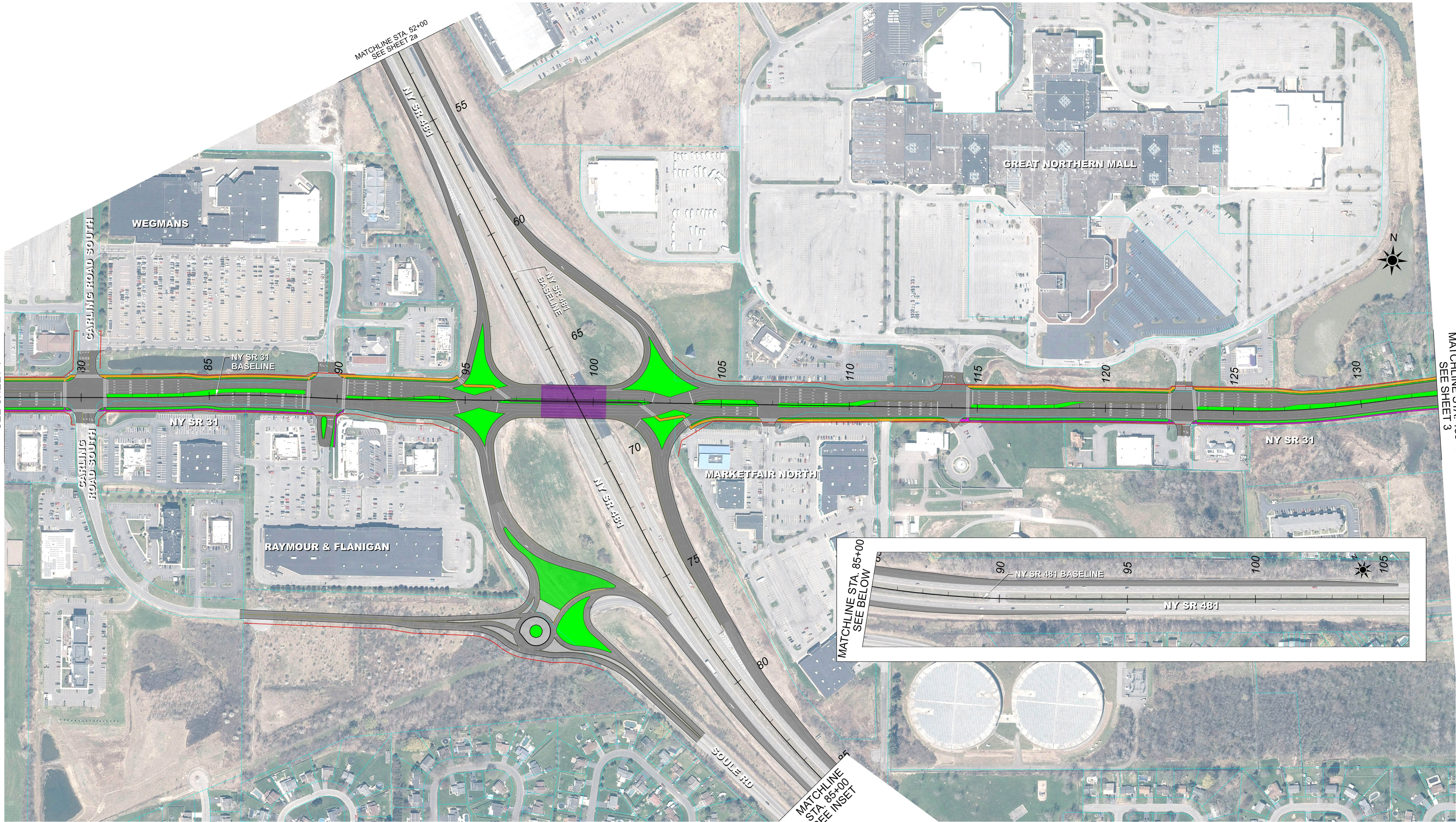


### Sheet Number

1



MATCHLINE STA. 77+00  
SEE SHEET 1



MATCHLINE STA. 52+00  
SEE SHEET 2a

MATCHLINE STA. 133+00  
SEE SHEET 3

MATCHLINE  
STA. 85+00  
SEE INSET

MATCHLINE STA. 85+00  
SEE BELOW



Department of Transportation

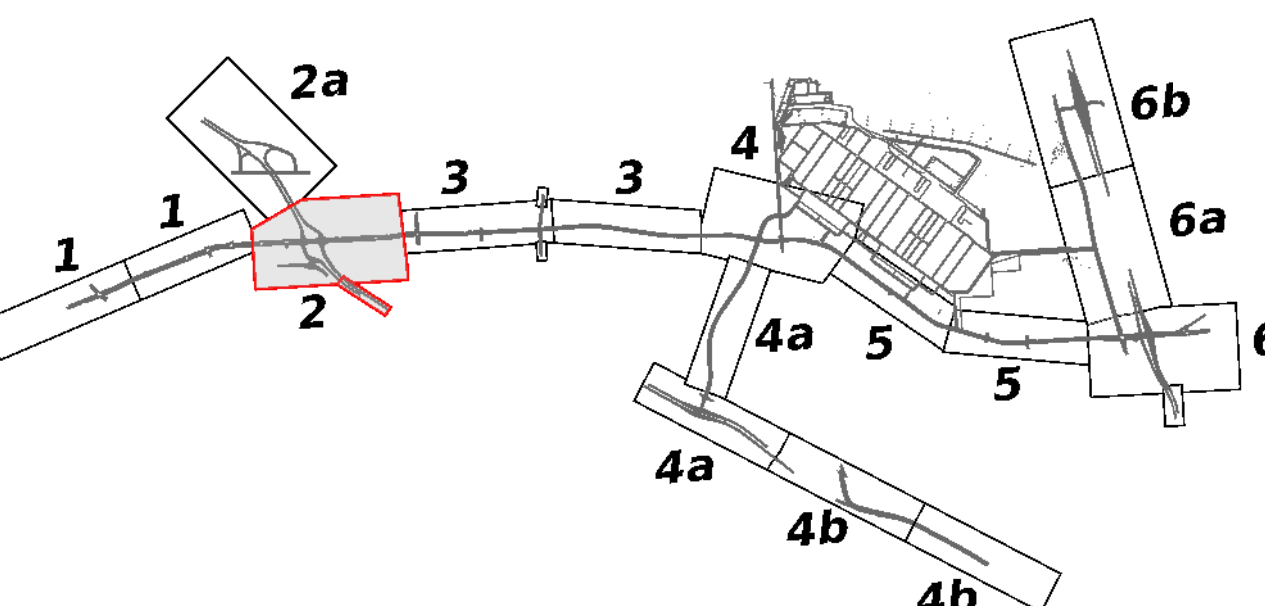
# Micron Semiconductor Fab Project

Clay, New York

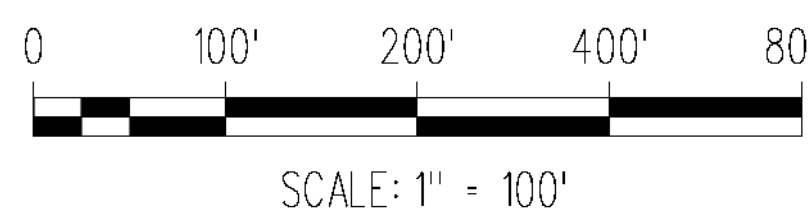
## Legend

- Denotes Proposed Roadway
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## Key Map



## Scale



## Sheet Number

2



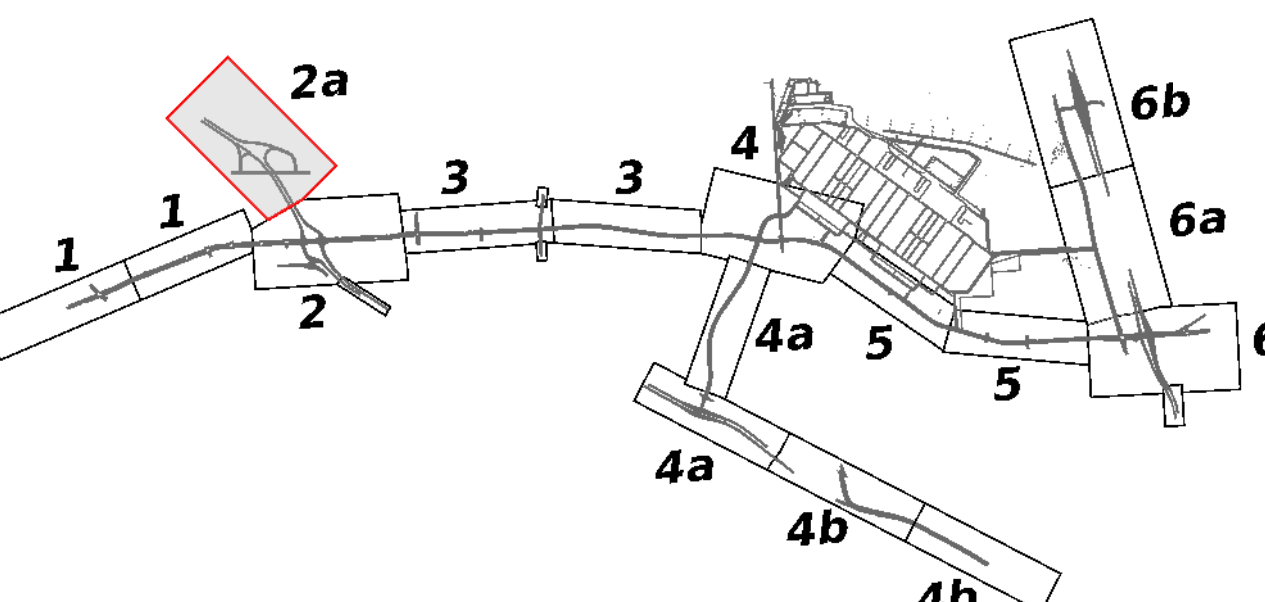


# Micron Semiconductor Fab Project

Clay, New York

- Legend**
- Denotes Proposed Roadway
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**Key Map**



**Scale**

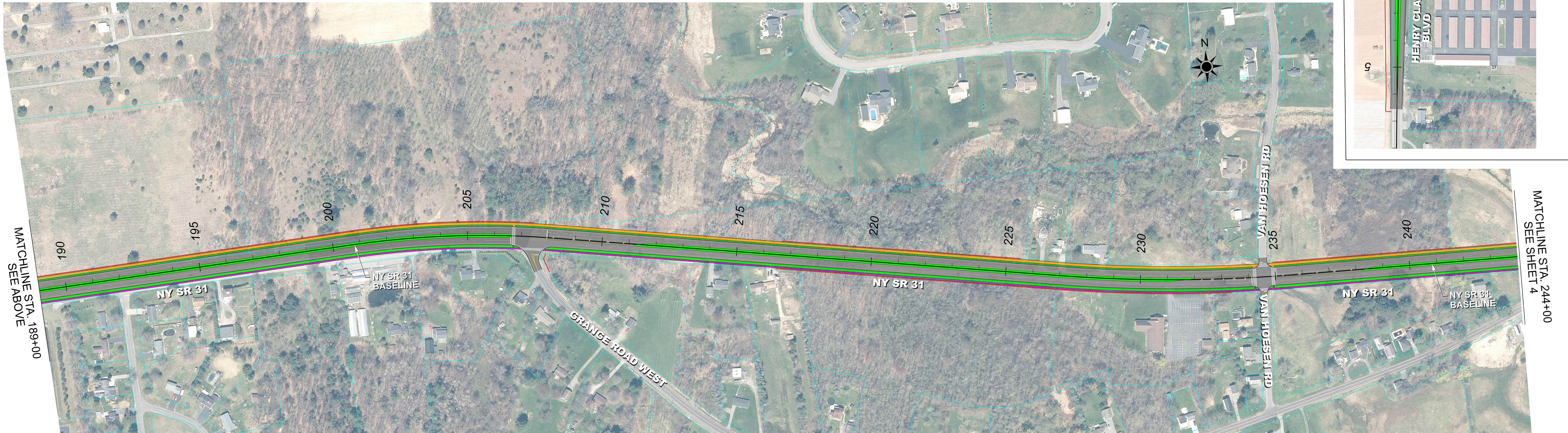
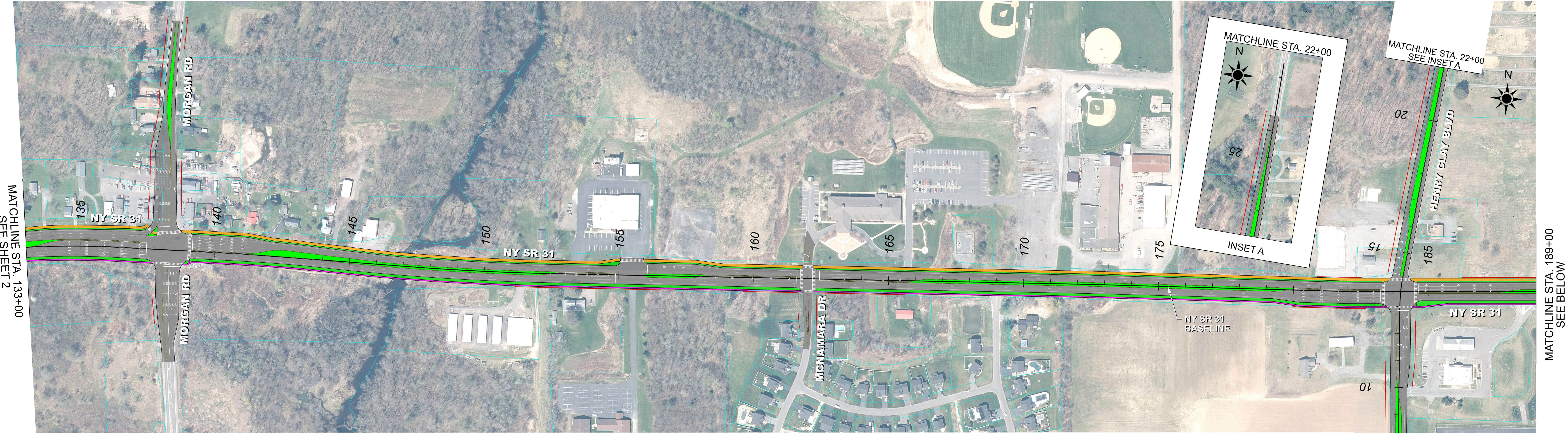
0 100' 200' 400' 800'

SCALE: 1" = 100'

**Sheet Number**

## 2a





# Micron Semiconductor Fab Project

Clay, New York

- Legend
- Denotes Proposed Roadway
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Key Map

Scale

0 100' 200' 400' 800'

SCALE: 1" = 100'

Sheet Number

3





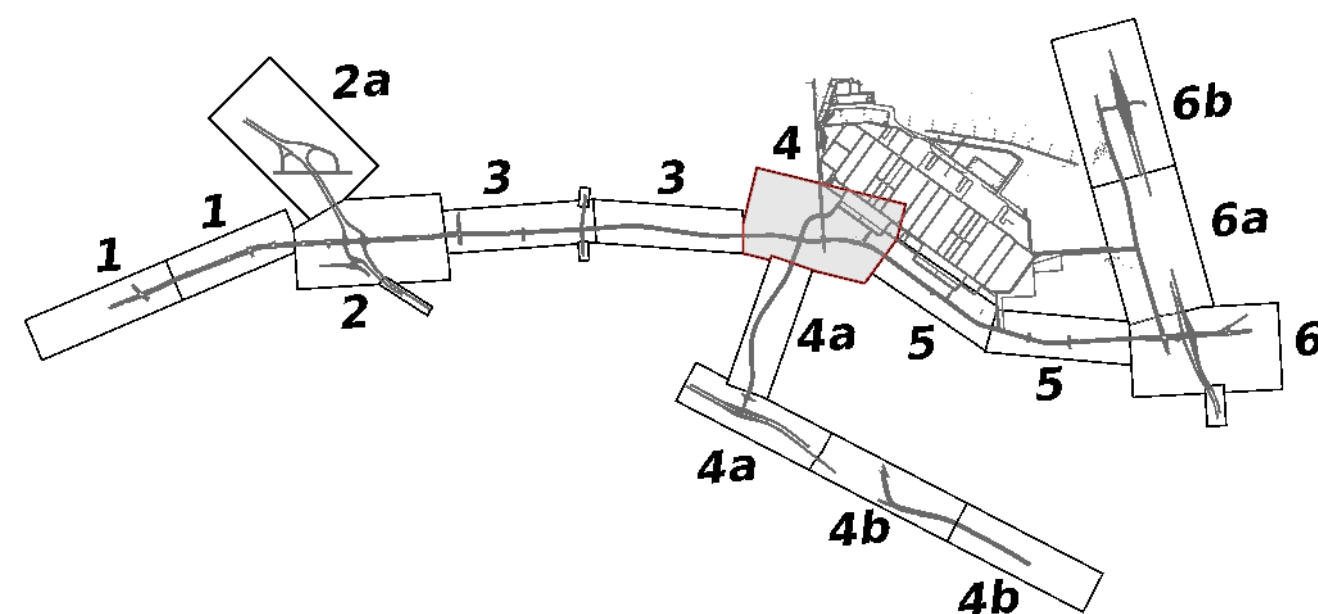
# Micron Semiconductor Fab Project

Clay, New York

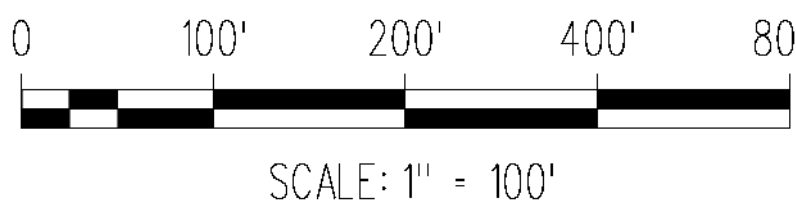
## Legend

- Denotes Proposed Roadway
- Denotes Proposed Bridge
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- Denotes Proposed Sidewalk
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## Key Map



## Scale



## Sheet Number

4





Department of Transportation

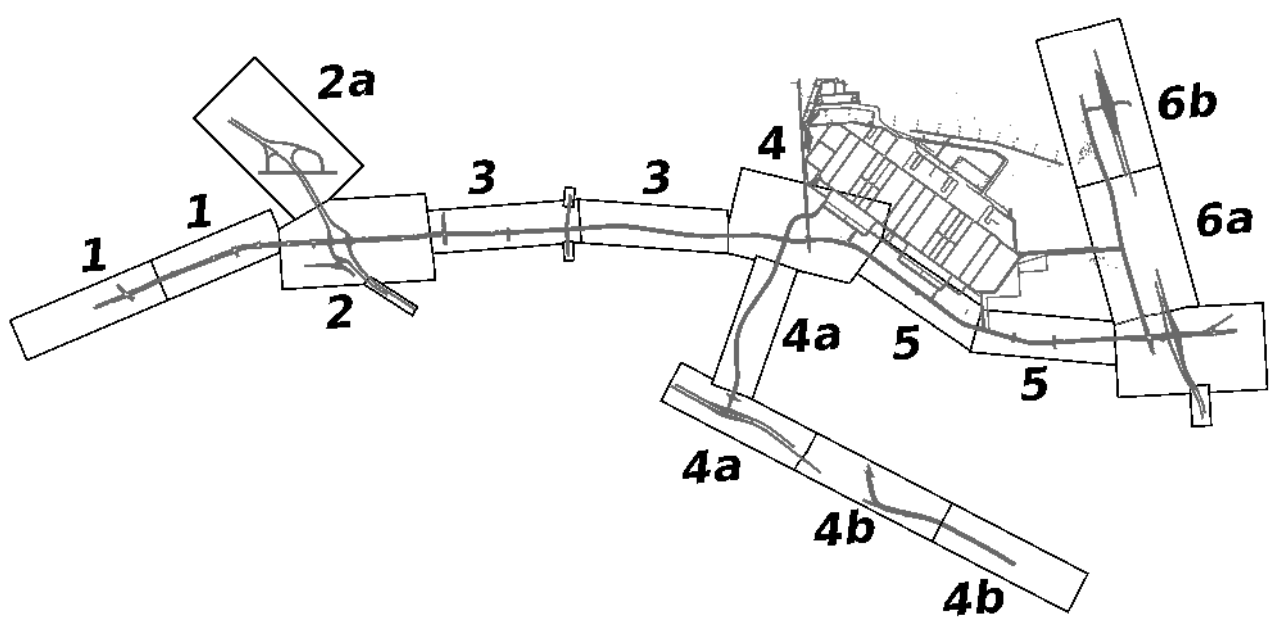
# Micron Semiconductor Fab Project

Clay, New York

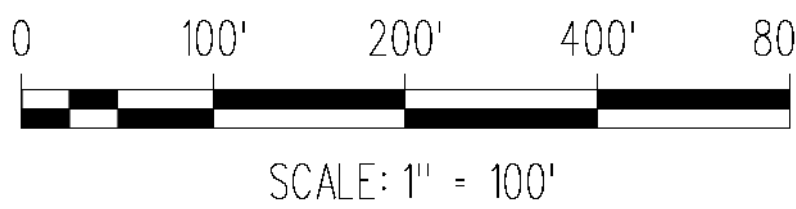
## Legend

- Denotes Proposed Roadway
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## Key Map



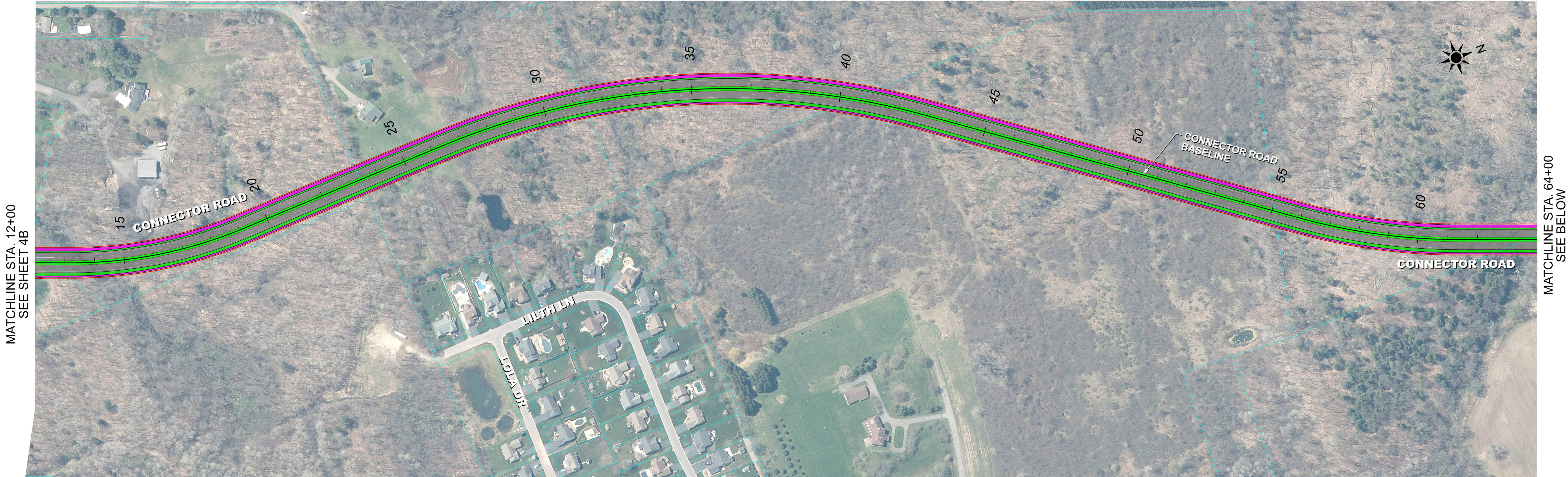
## Scale



SCALE: 1" = 100'

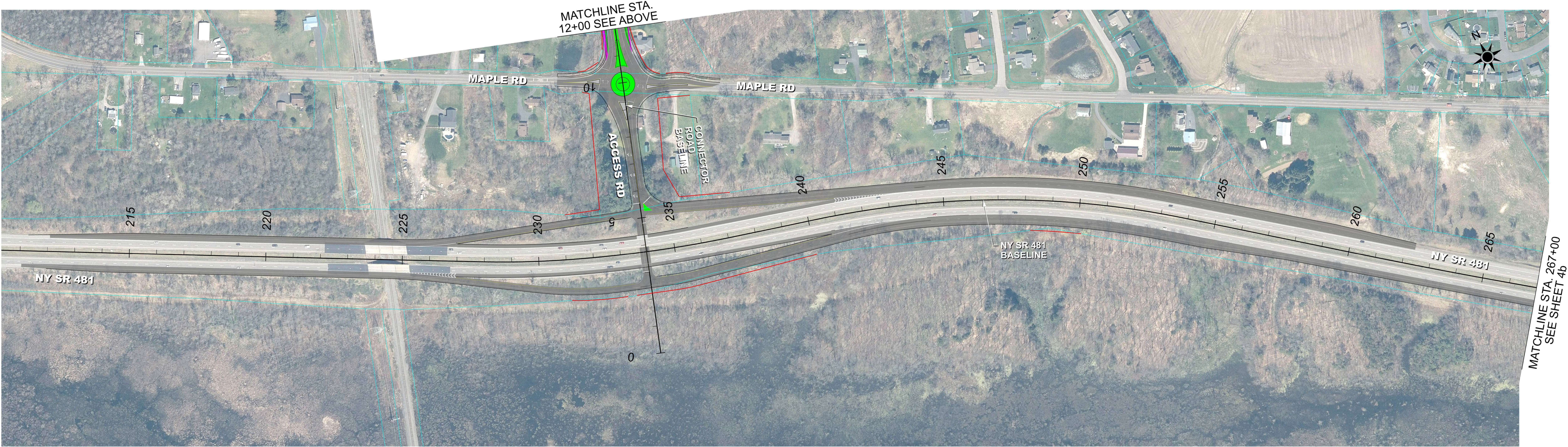
## Sheet Number

4a



MATCHLINE STA. 12+00  
SEE SHEET 4B

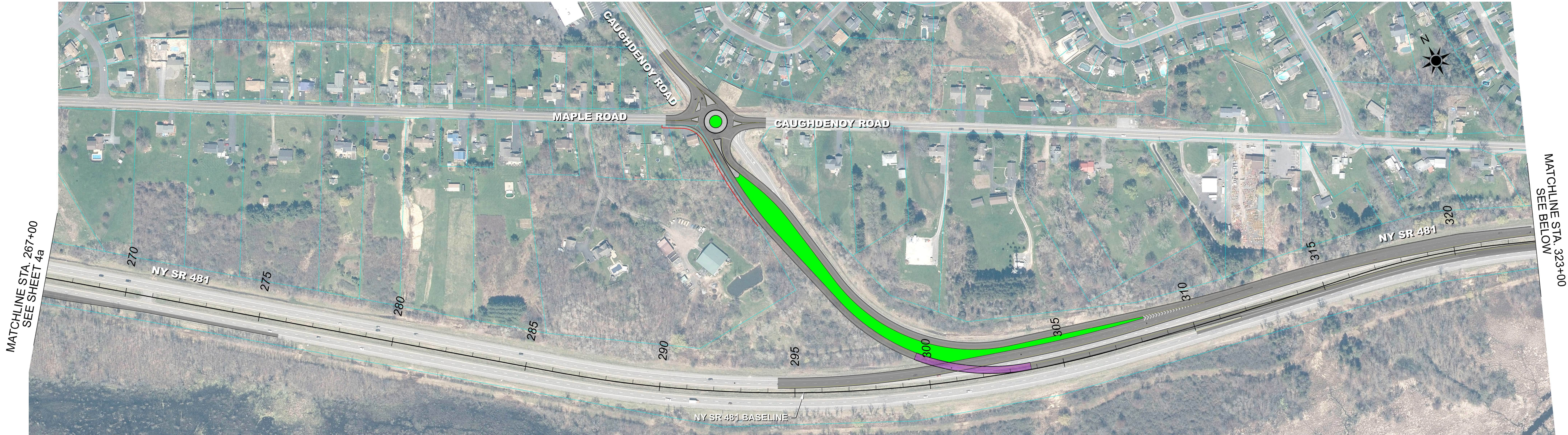
MATCHLINE STA. 64+00  
SEE BELOW



MATCHLINE STA. 12+00  
SEE ABOVE

MATCHLINE STA. 267+00  
SEE SHEET 4b





Department of Transportation

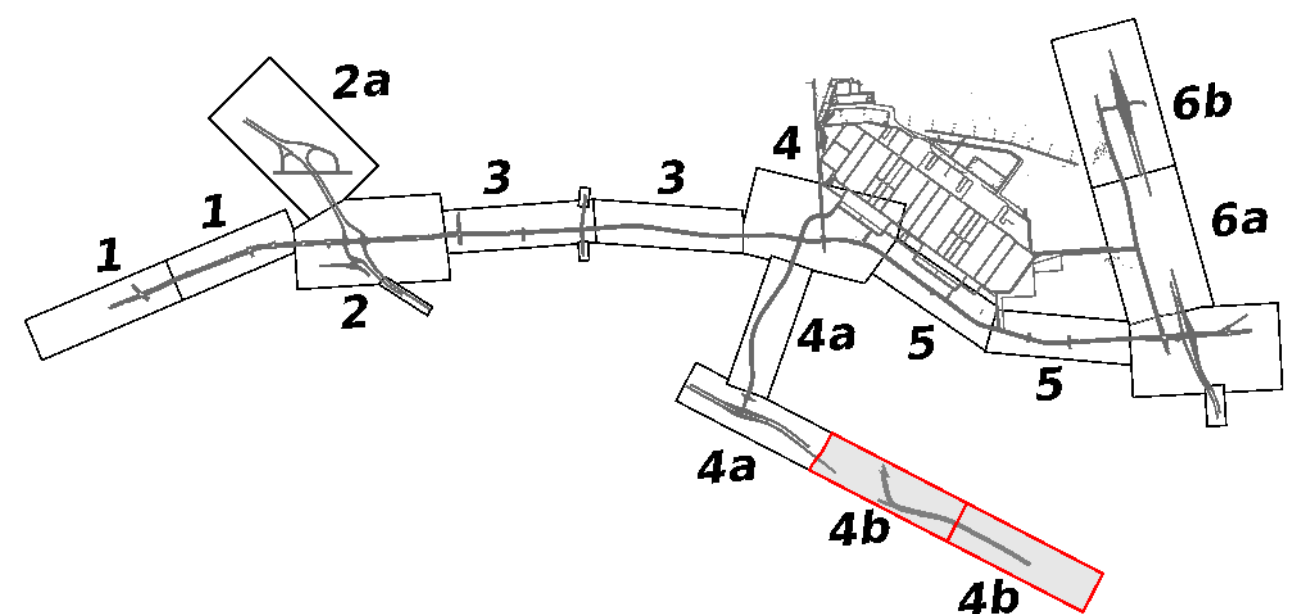
# Micron Semiconductor Fab Project

Clay, New York

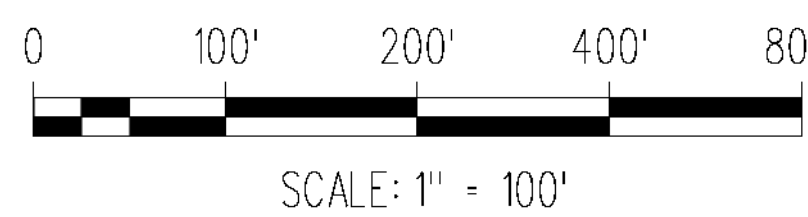
## Legend

- Denotes Proposed Roadway
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## Key Map



## Scale



## Sheet Number

4b





Department of Transportation

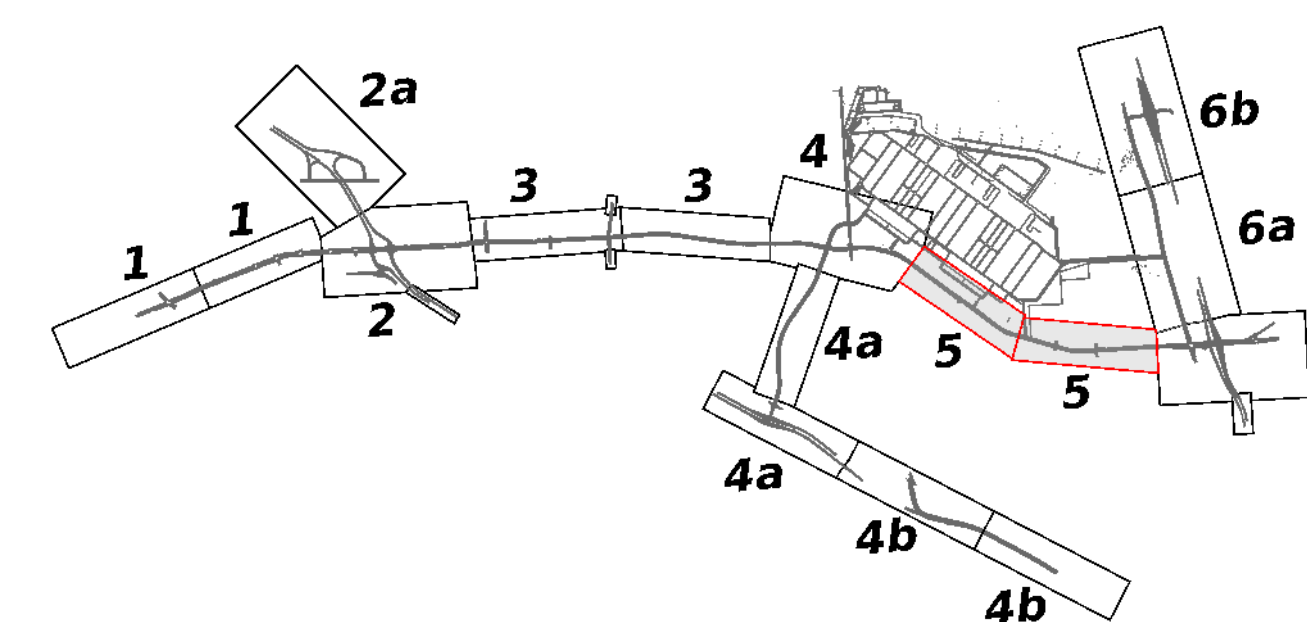
# Micron Semiconductor Fab Project

Clay, New York

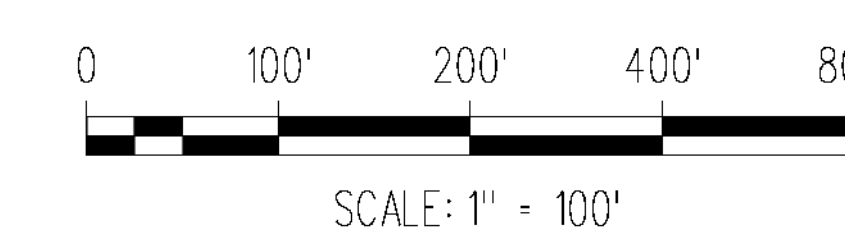
## Legend

- Denotes Proposed Roadway
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- Denotes Proposed Shared Use Path
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- Denotes Proposed Raised Grass Median
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## Key Map

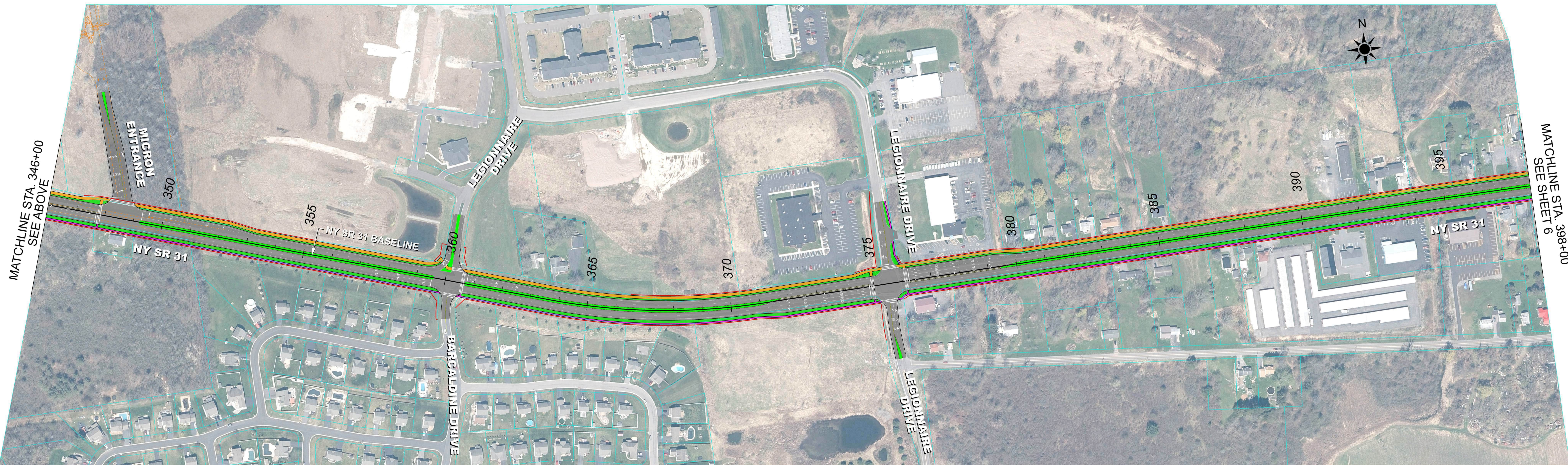


## Scale



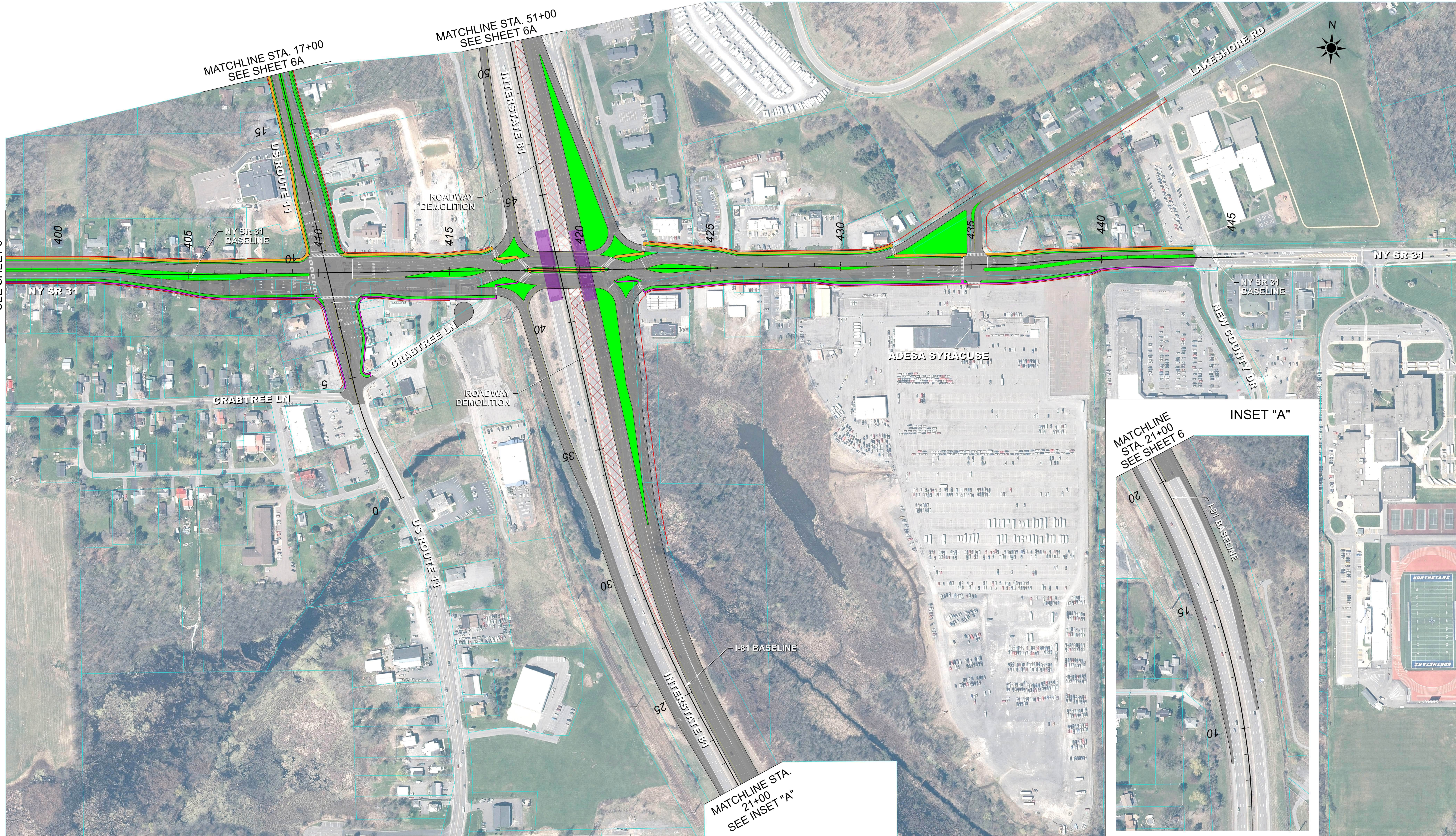
## Sheet Number

5





MATCHLINE STA. 398+00  
SEE SHEET 5



Department of Transportation

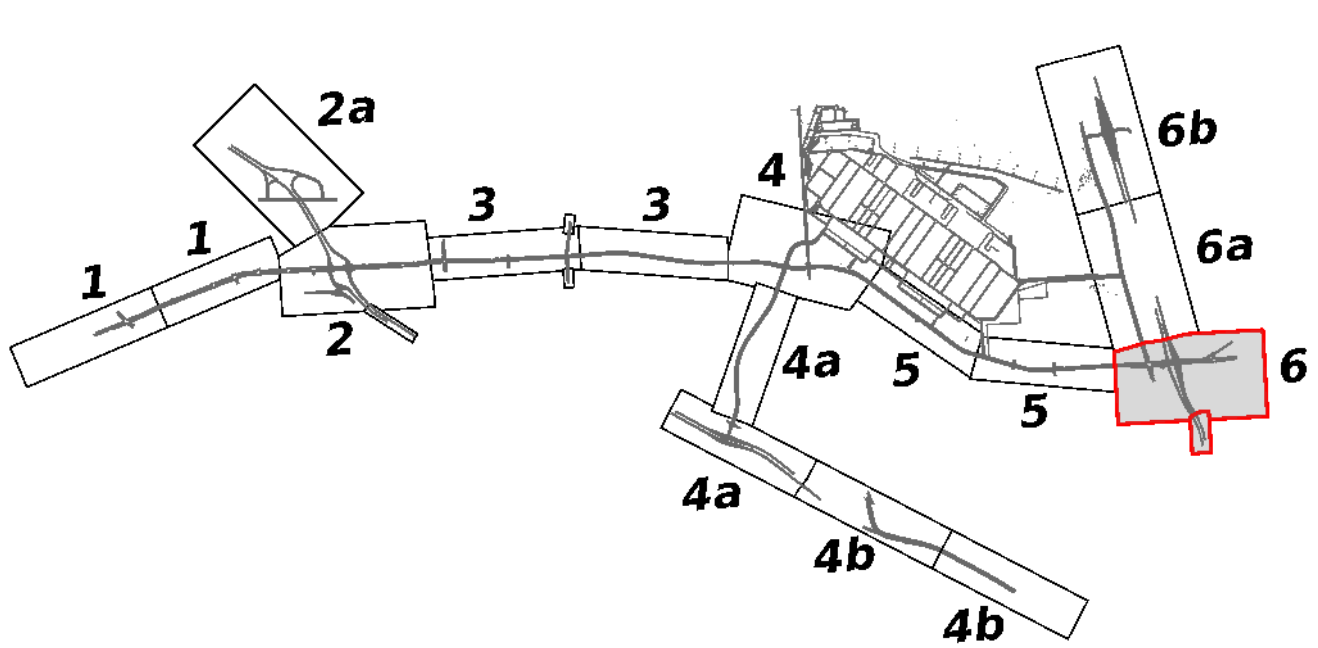
# Micron Semiconductor Fab Project

Clay, New York

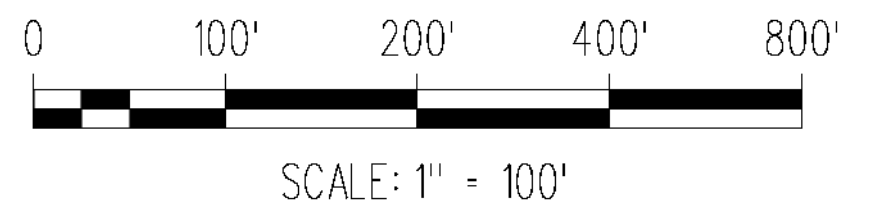
## Legend

- Denotes Proposed Roadway
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## Key Map



## Scale



## Sheet Number

6

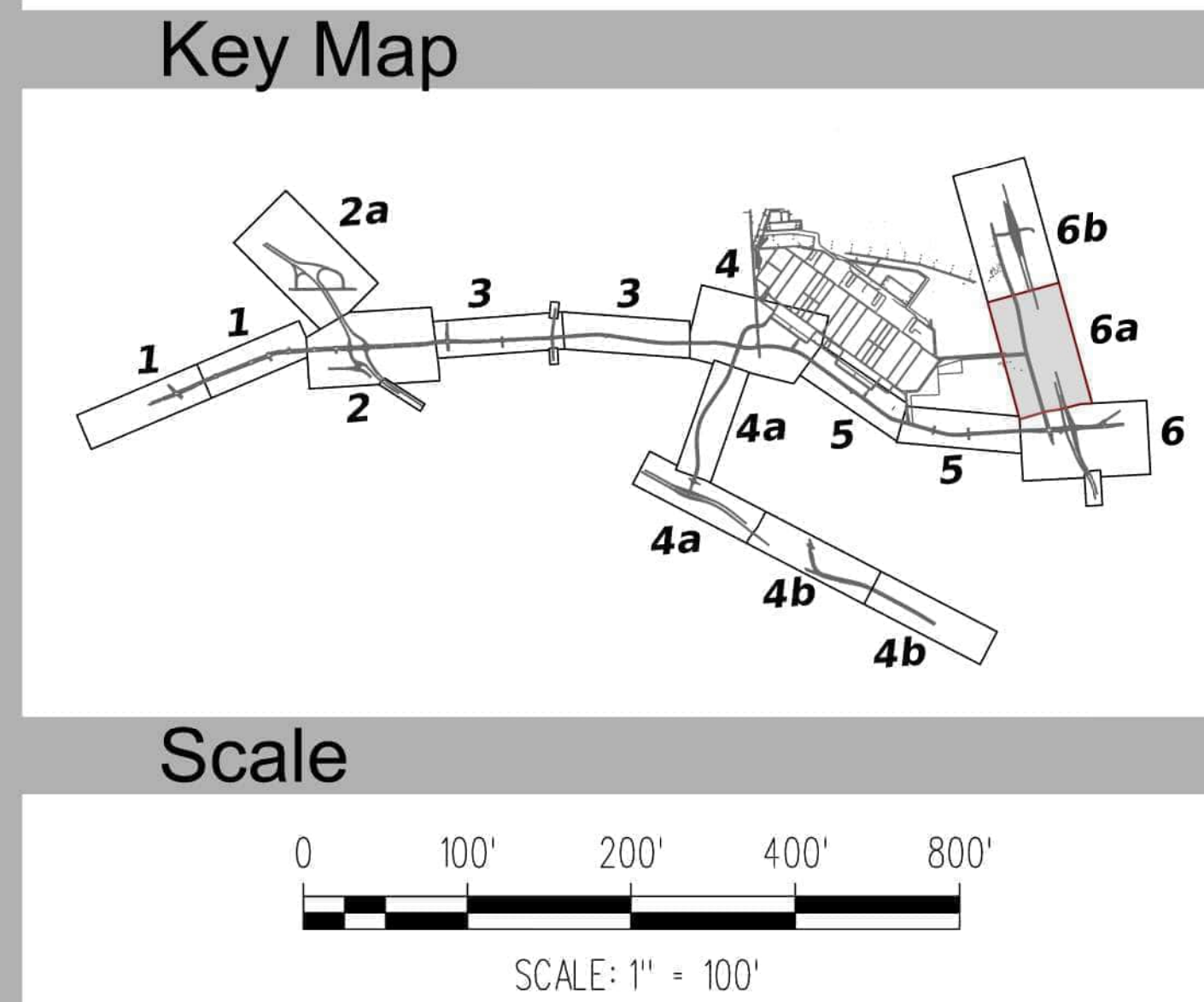




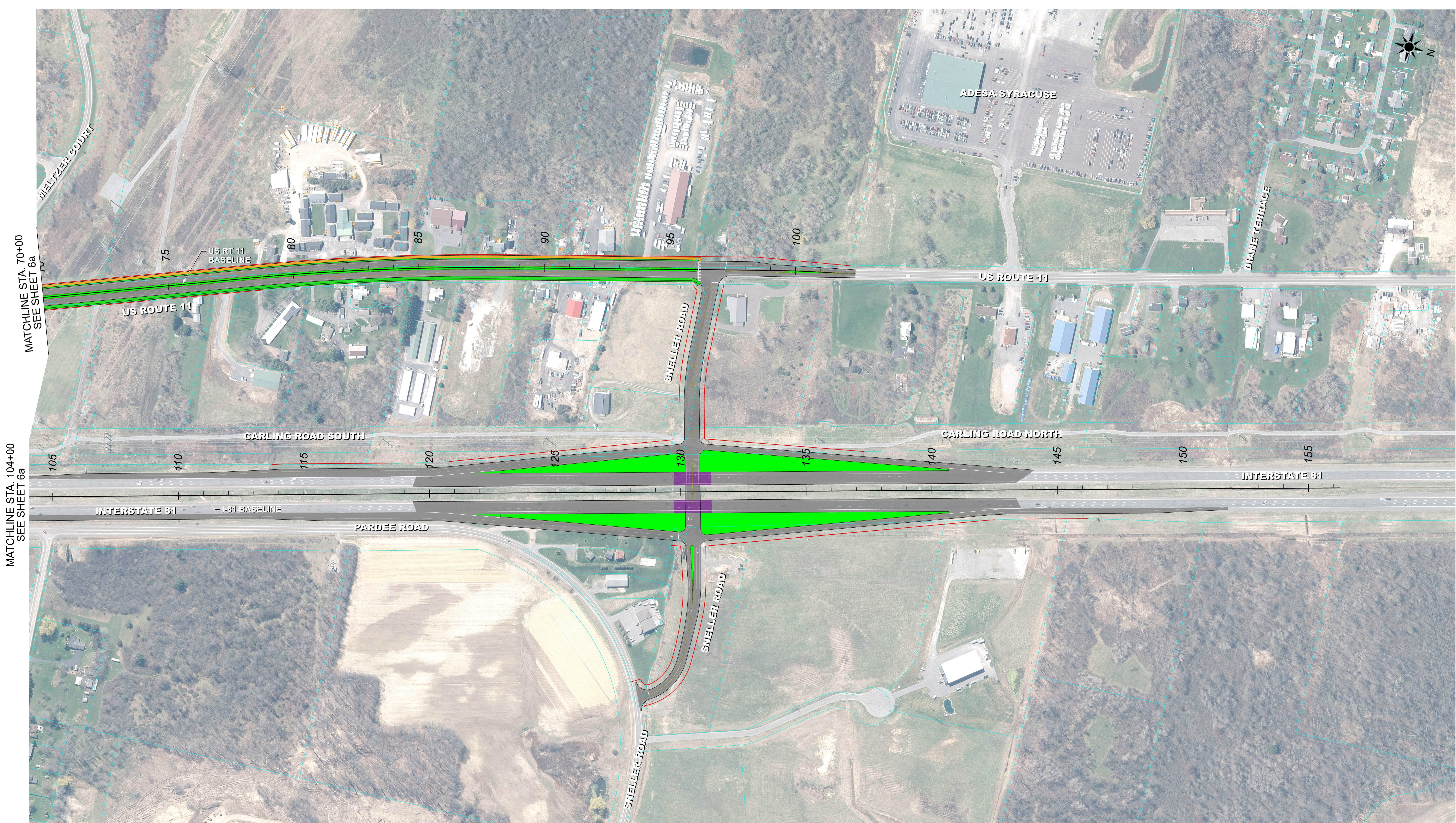
# Micron Semiconductor Fab Project

Clay, New York

- Legend
- Denotes Proposed Roadway
  - Denotes Proposed Bridge
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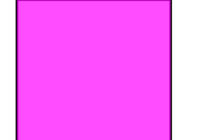
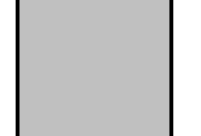


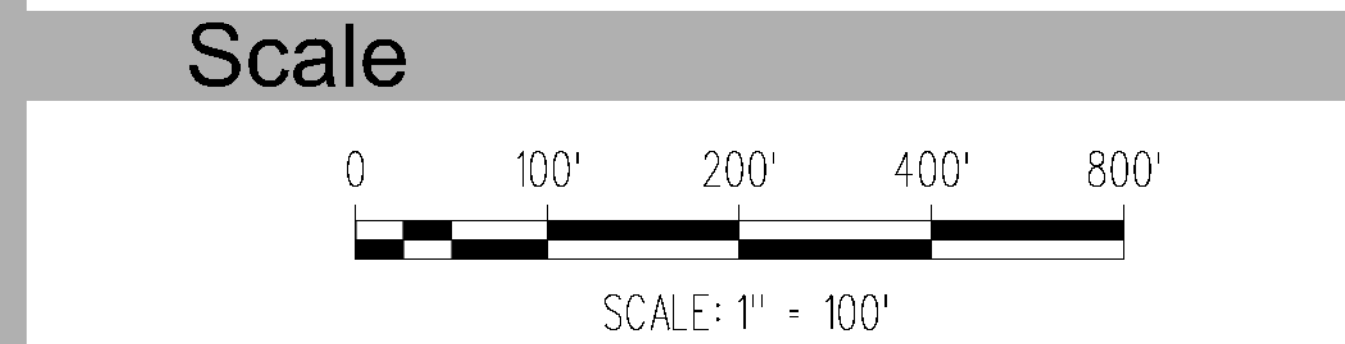
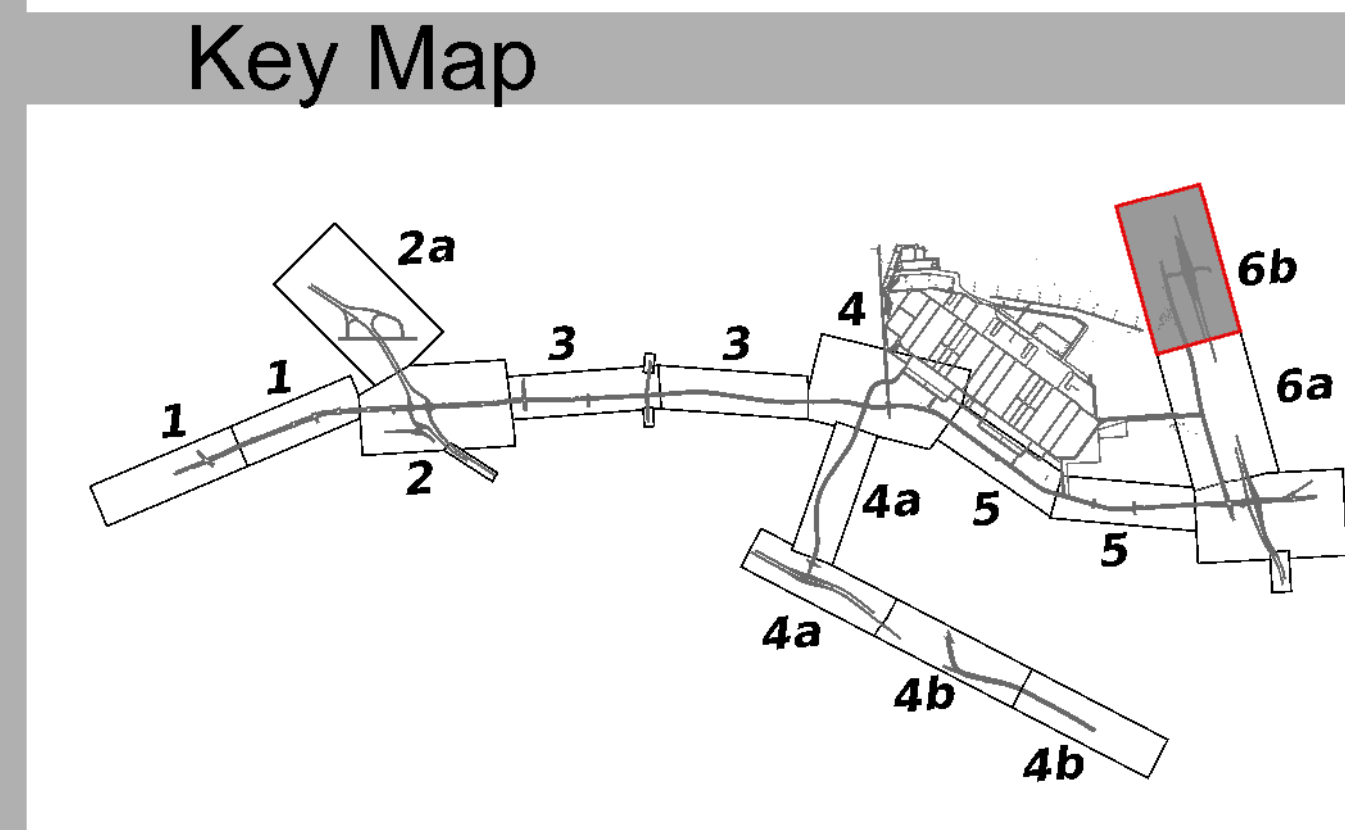
MATCHLINE STA. 70+00  
SEE SHEET 6a

MATCHLINE STA. 104+00  
SEE SHEET 6a

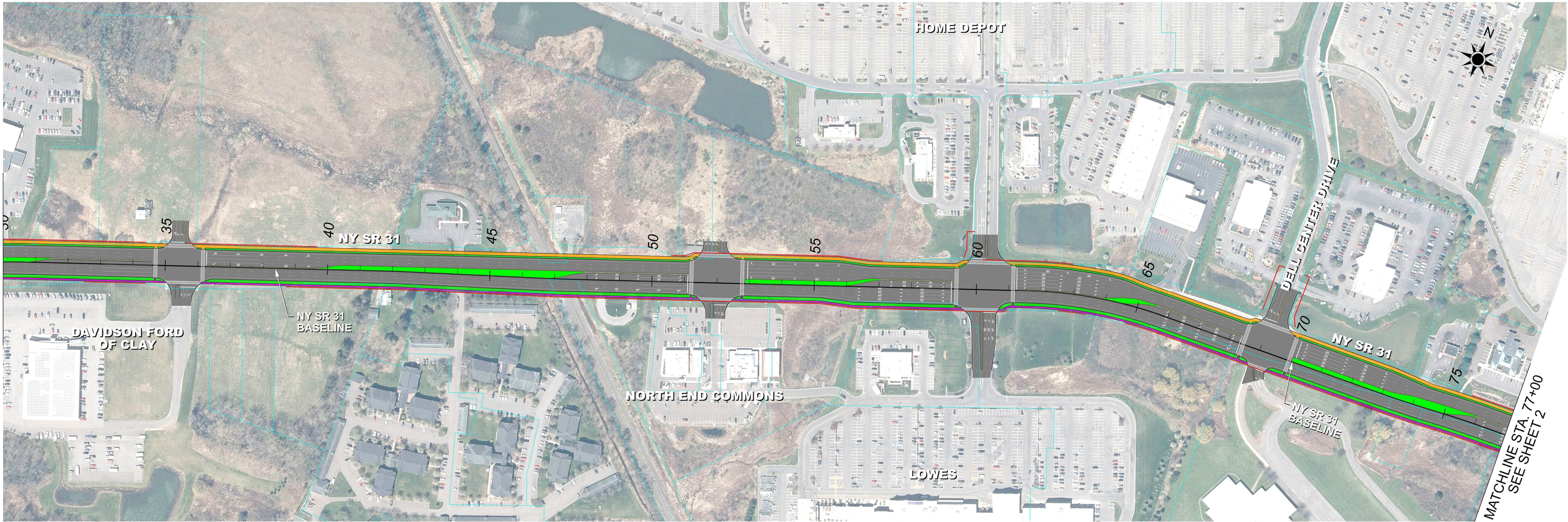
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Clay, New York

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Department of Transportation

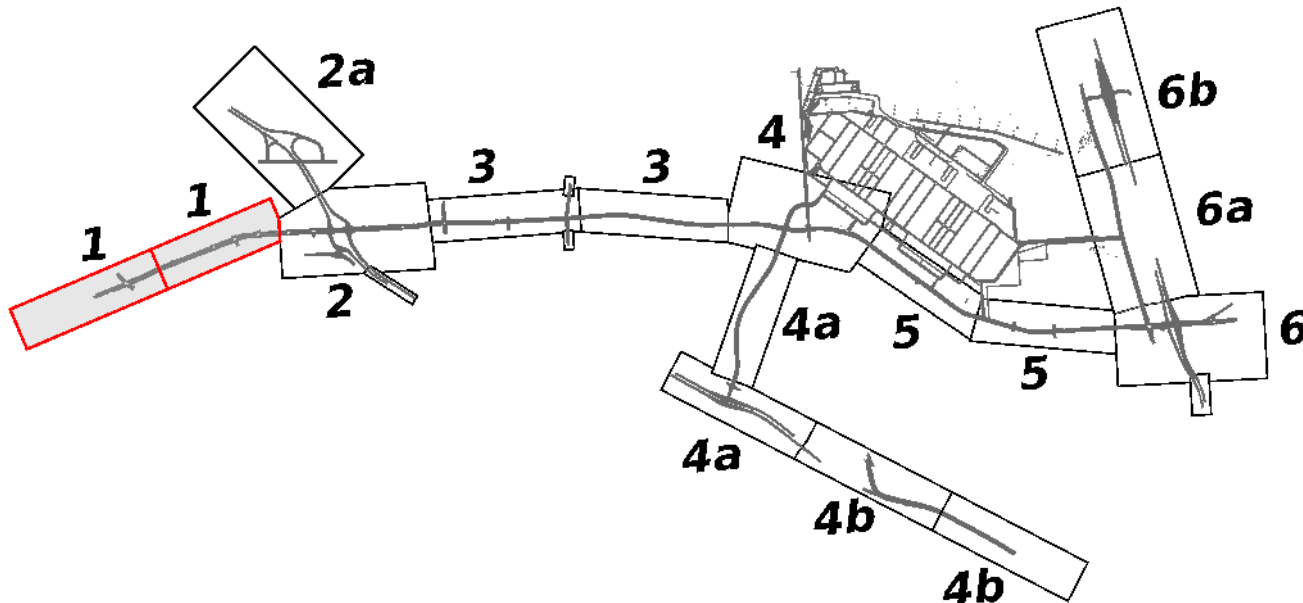
# Micron Semiconductor Fab Project

Clay, New York

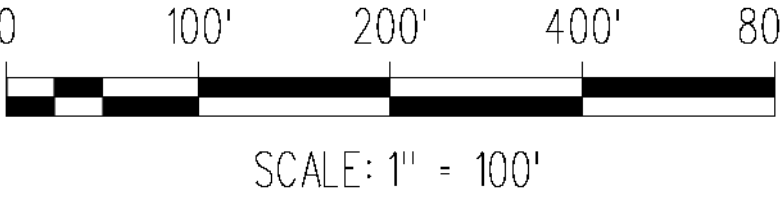
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## Key Map



## Scale

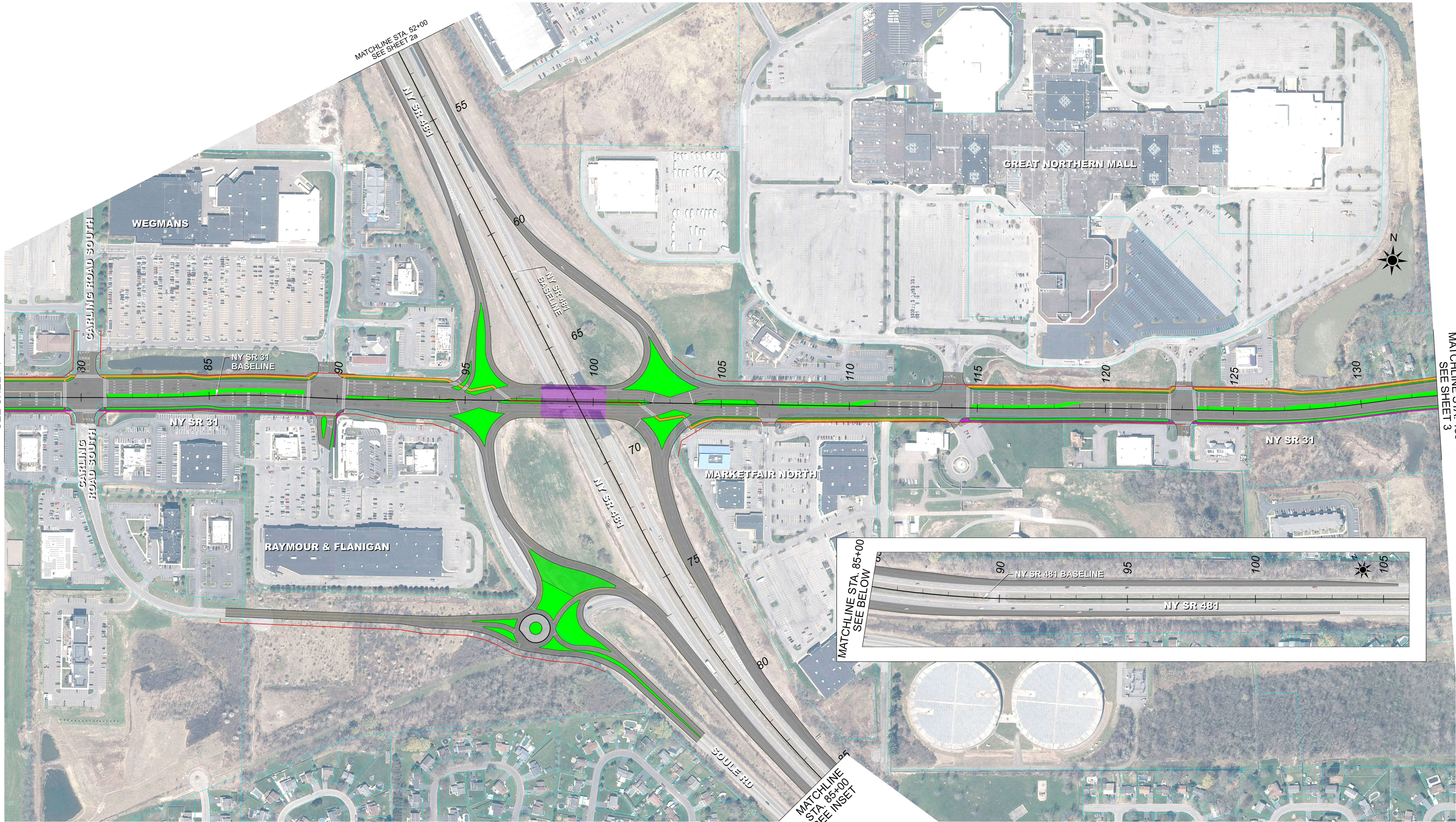


## Sheet Number

1



MATCHLINE STA. 77+00  
SEE SHEET 1

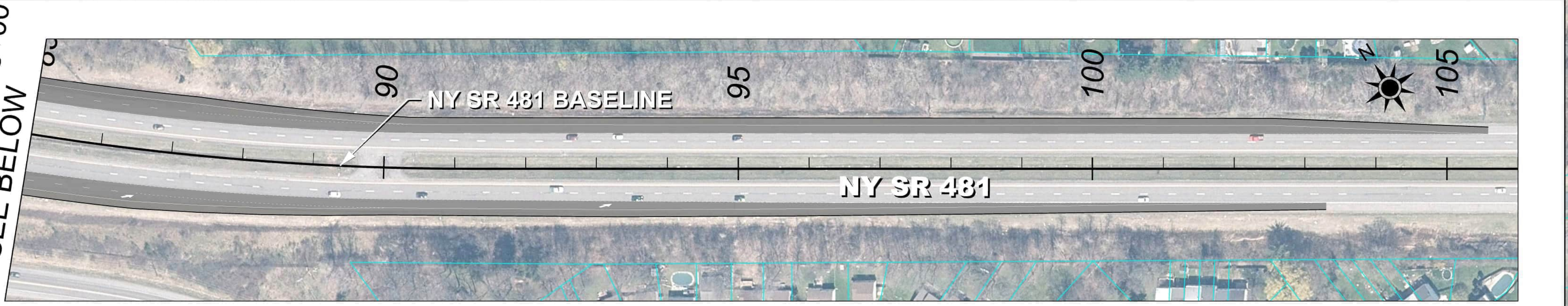


MATCHLINE STA. 52+00  
SEE SHEET 2a

MATCHLINE STA. 133+00  
SEE SHEET 3

MATCHLINE  
STA. 85+00  
SEE INSET

MATCHLINE STA. 85+00  
SEE BELOW



Department of Transportation

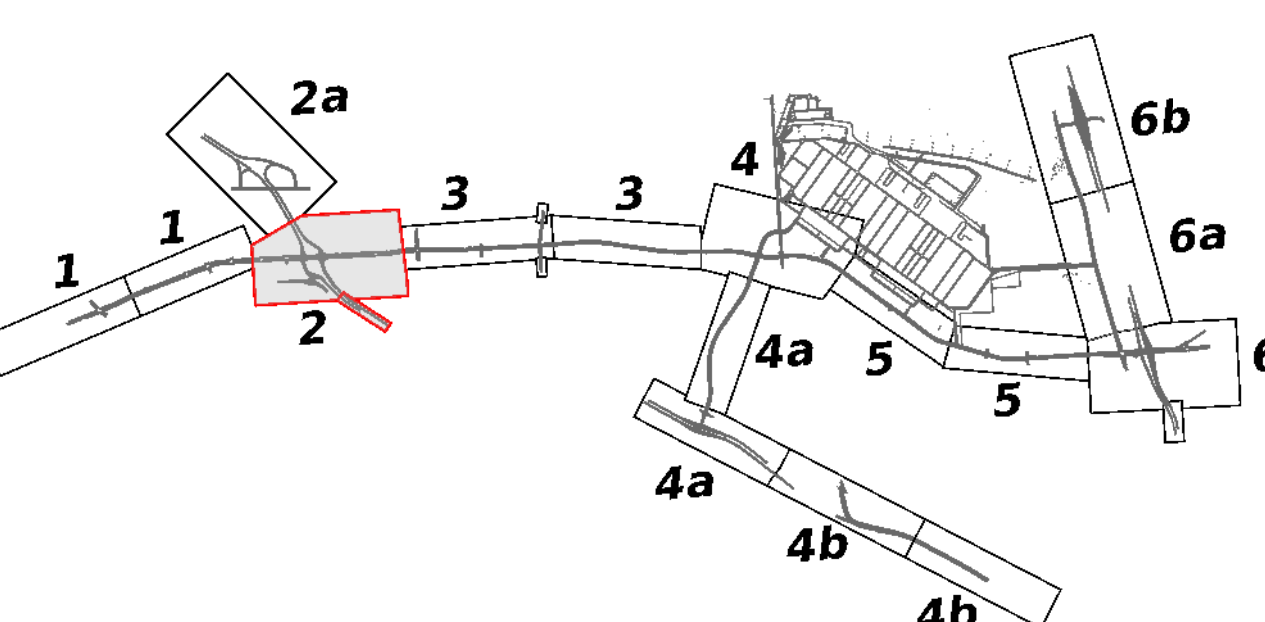
# Micron Semiconductor Fab Project

Clay, New York

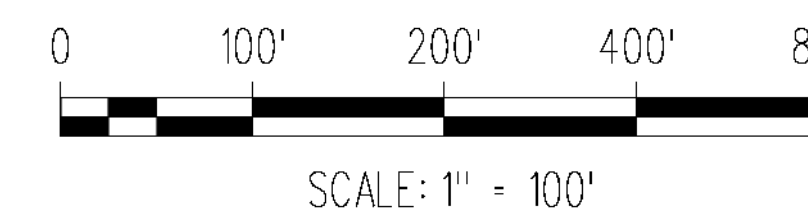
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## Key Map



## Scale



## Sheet Number

2





Micron  
Semiconductor  
Fab Project  
Clay, New York

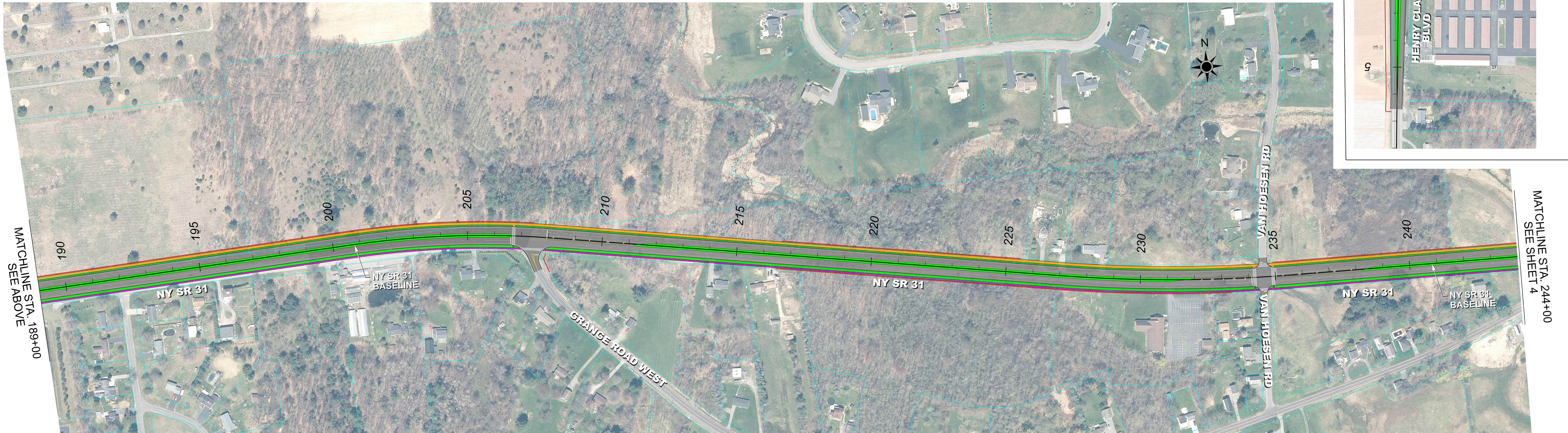
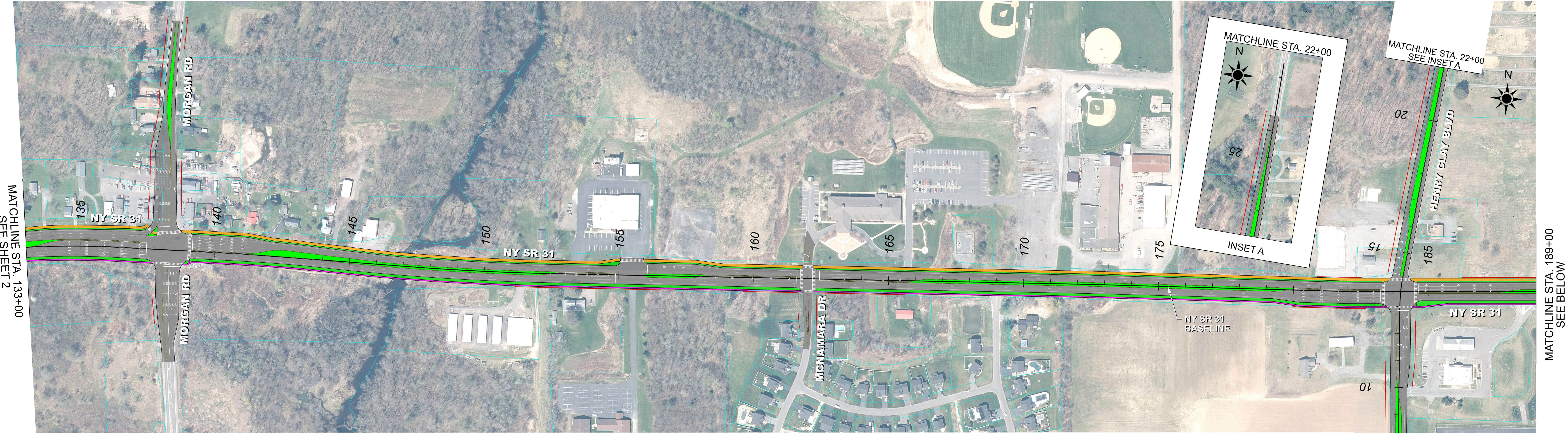
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Key Map

Scale  
0 100' 200' 400' 800'  
SCALE: 1" = 100'

Sheet Number  
**2a**





Department of Transportation

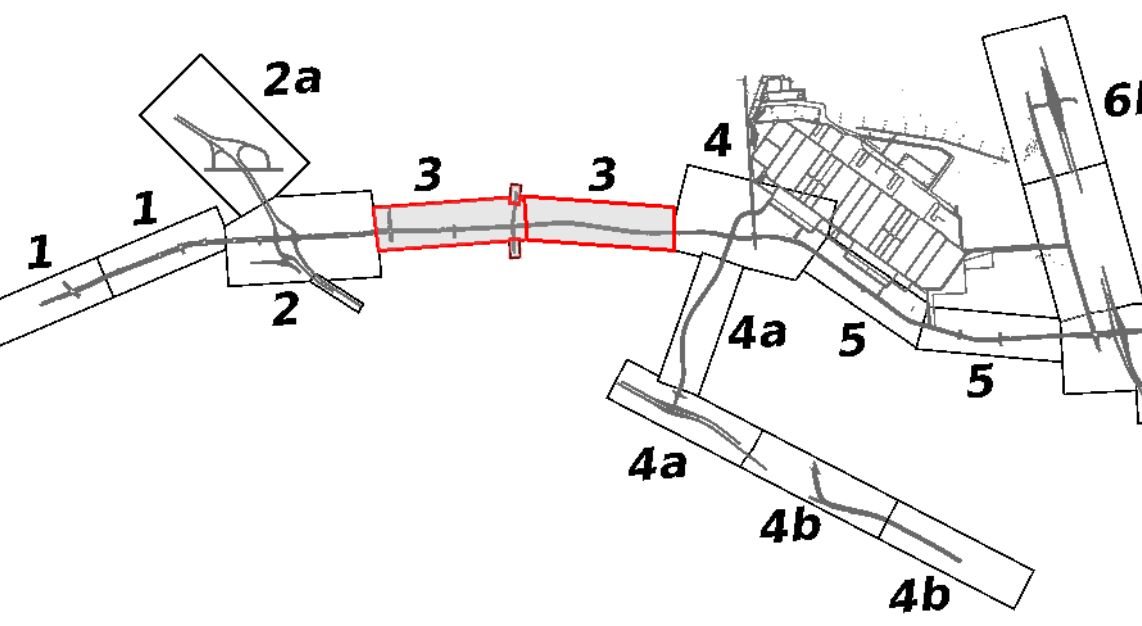
# Micron Semiconductor Fab Project

Clay, New York

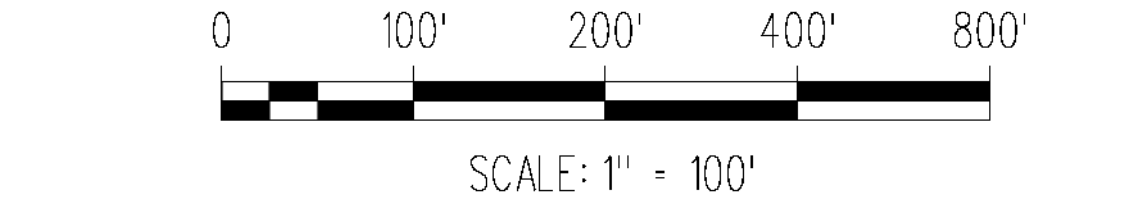
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## Key Map



## Scale



## Sheet Number

3





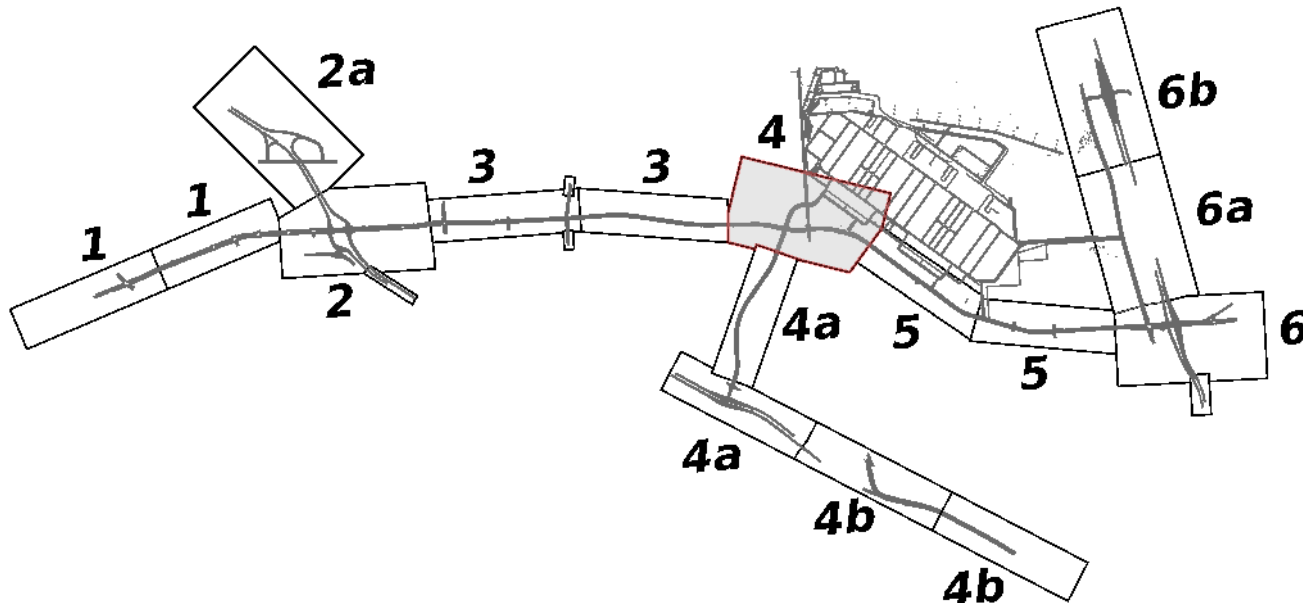
# Micron Semiconductor Fab Project

Clay, New York

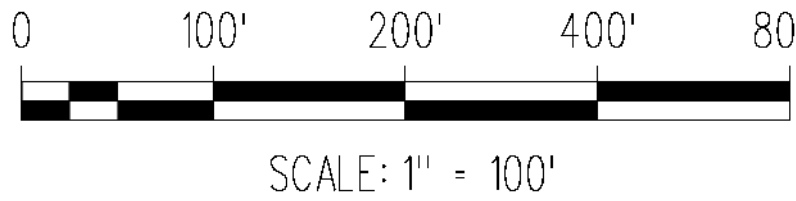
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## Key Map



## Scale



## Sheet Number

4





Department of Transportation

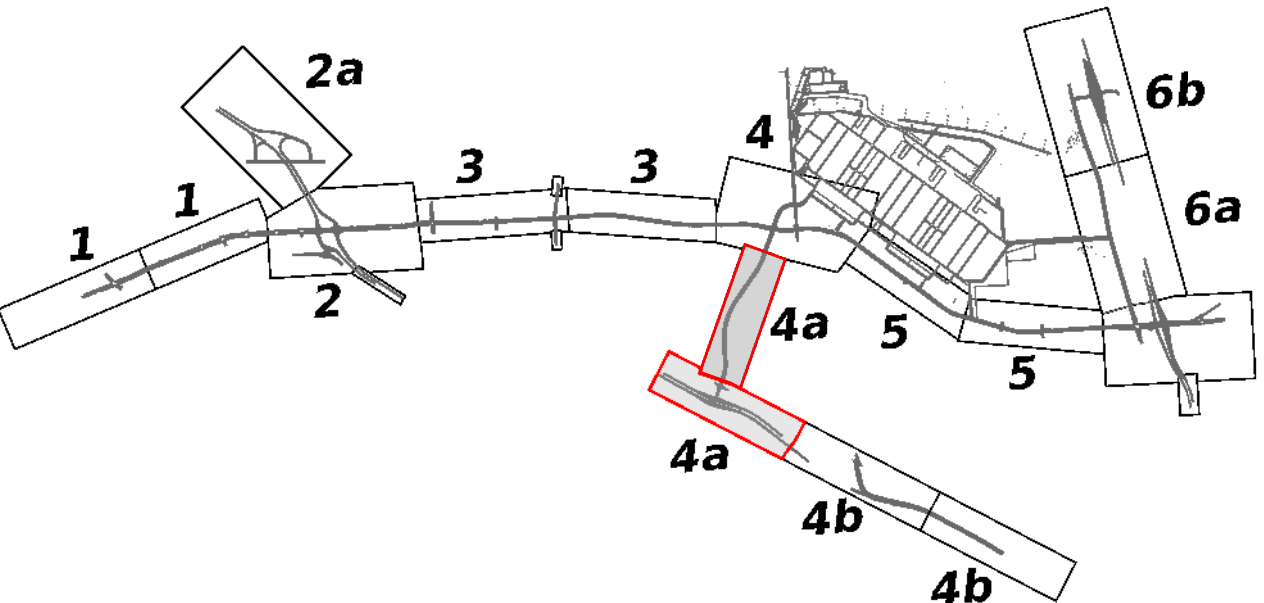
# Micron Semiconductor Fab Project

Clay, New York

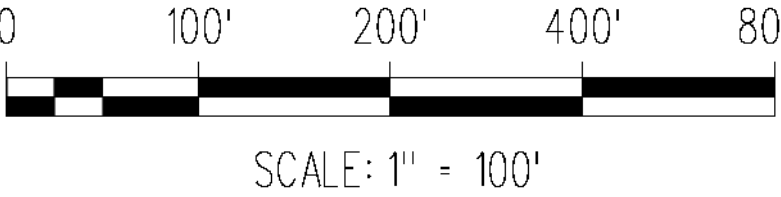
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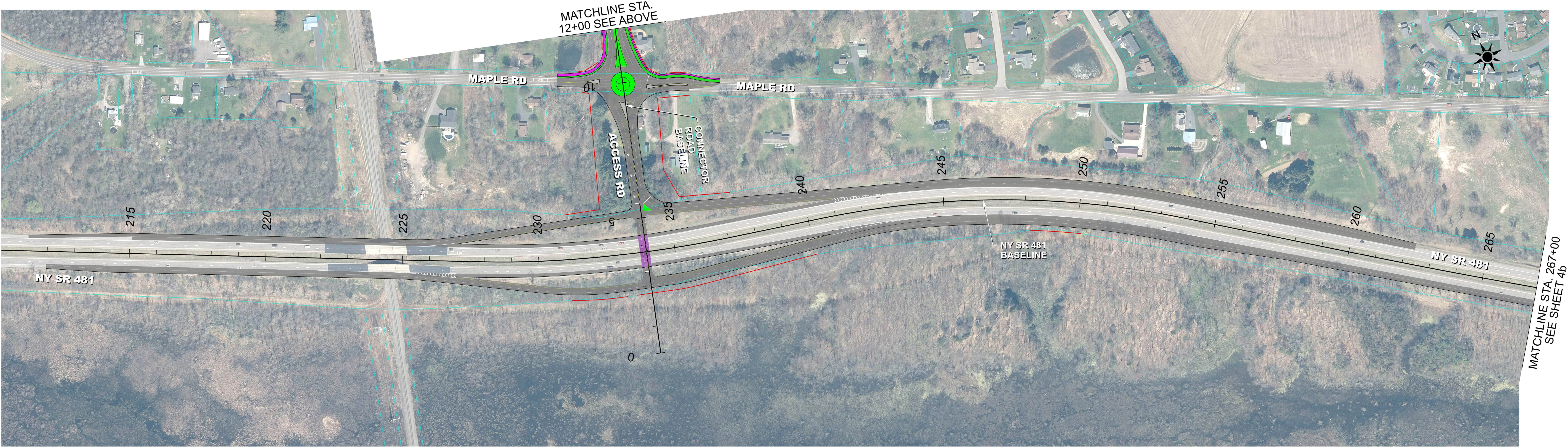
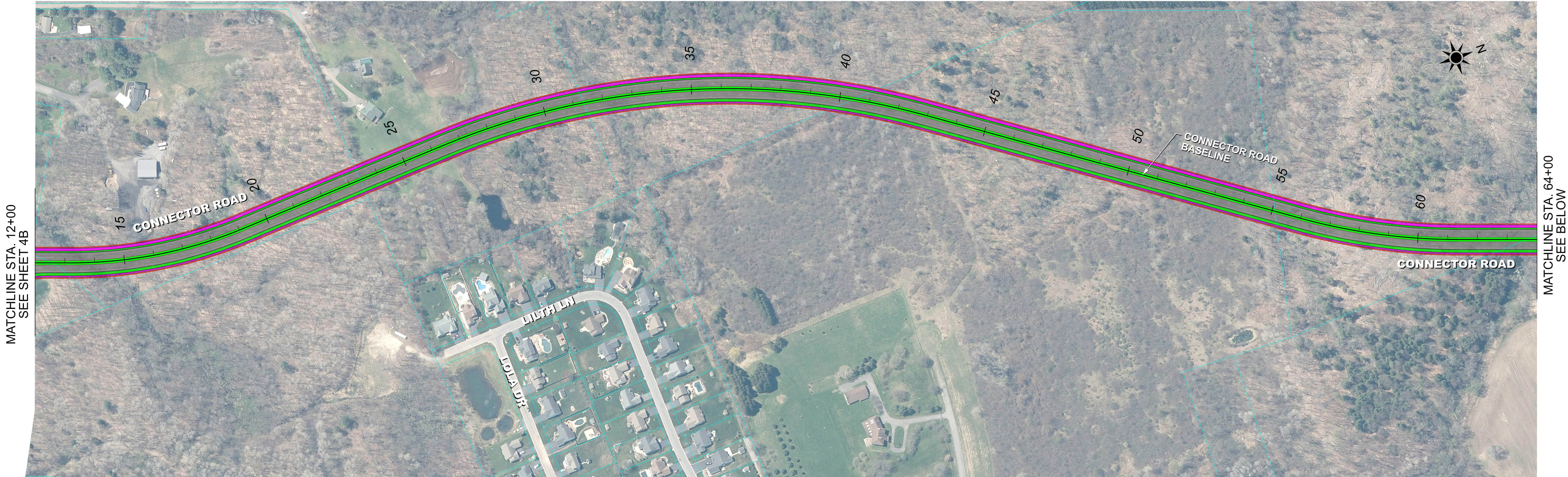
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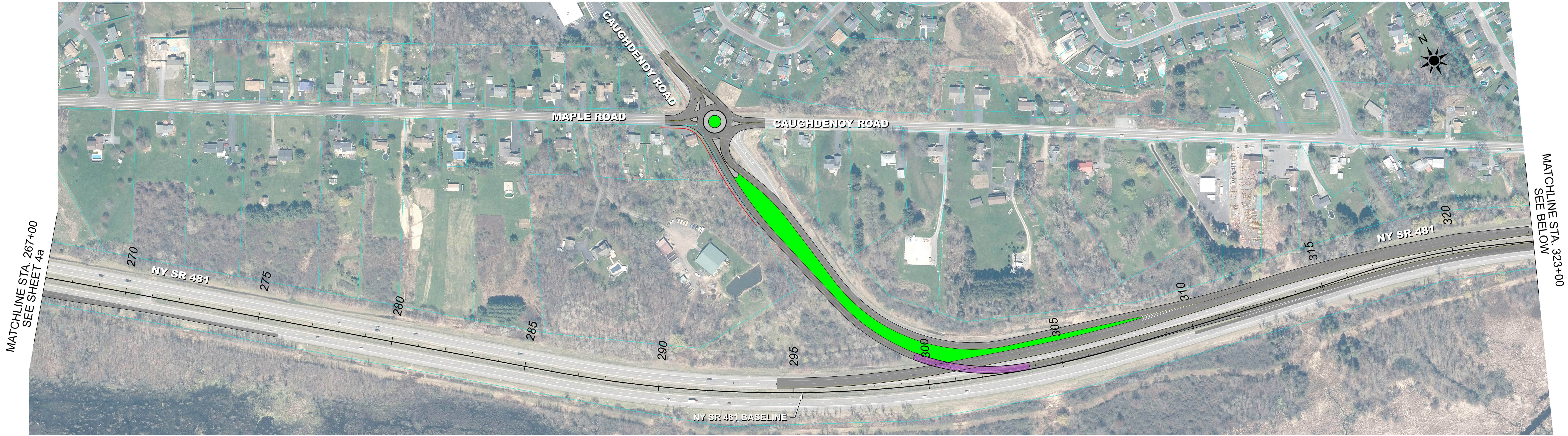
SCALE: 1" = 100'

## Sheet Number

4a







Department of Transportation

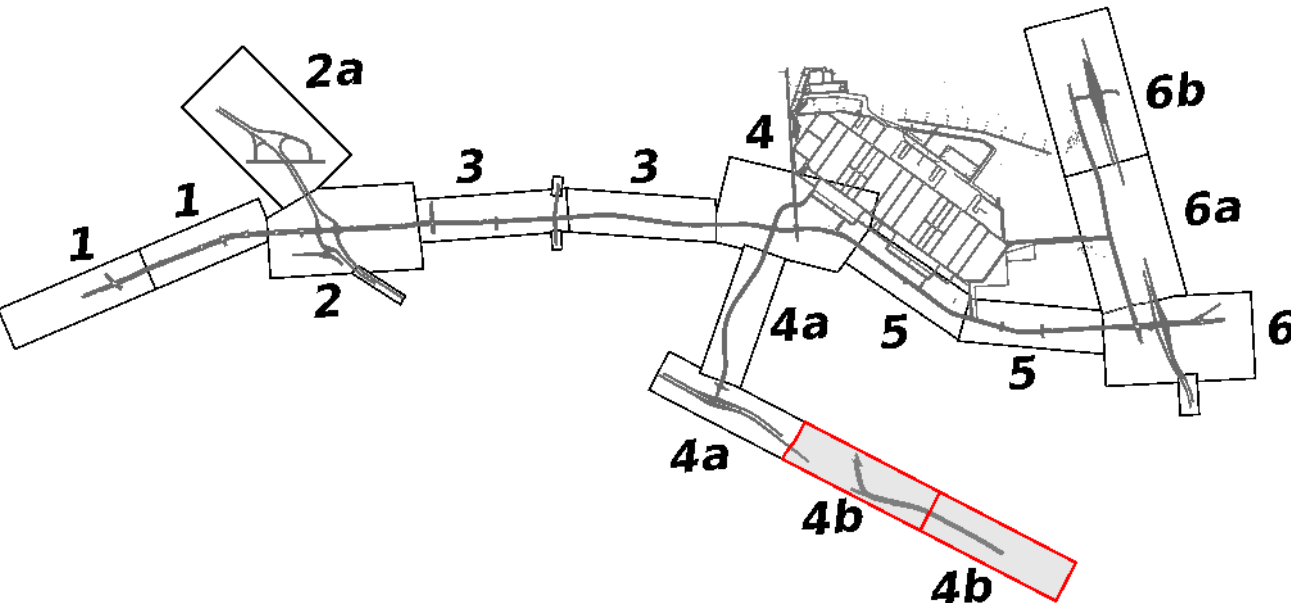
# Micron Semiconductor Fab Project

Clay, New York

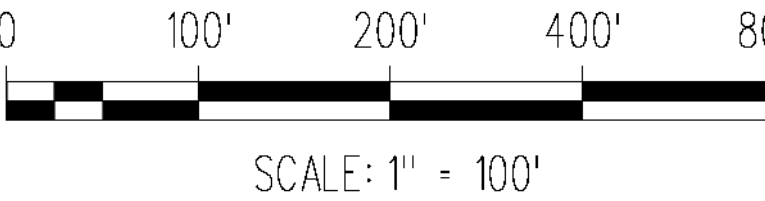
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## Key Map



## Scale



SCALE: 1" = 100'

## Sheet Number

4b





Department of Transportation

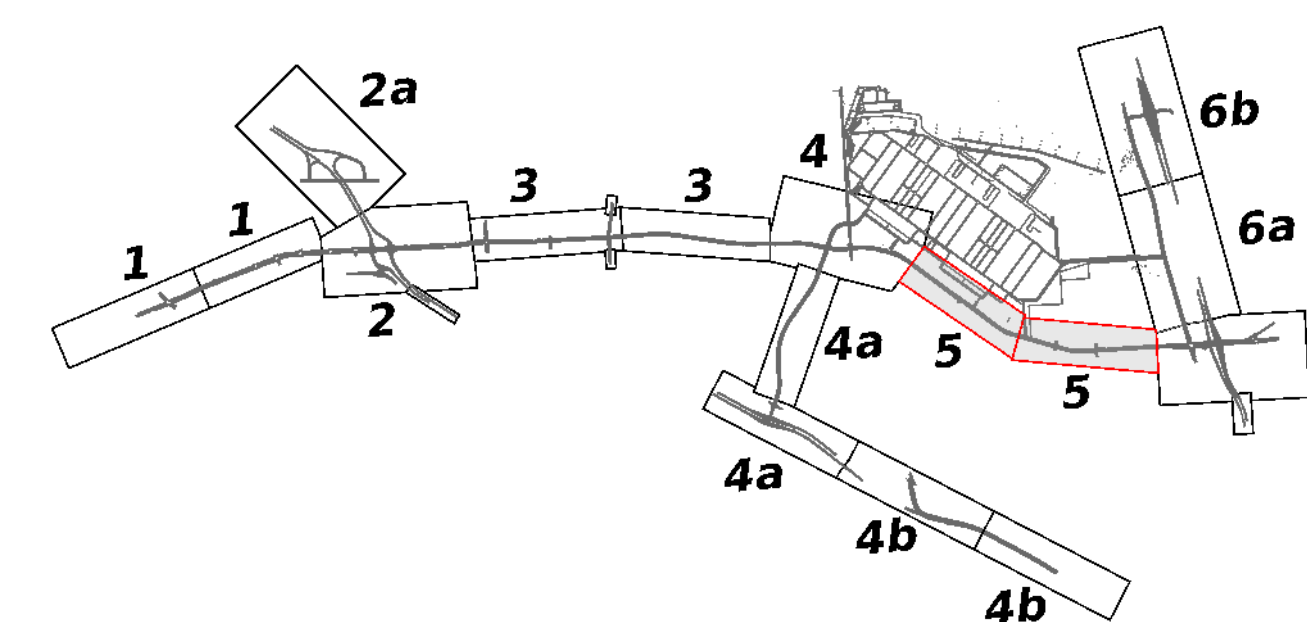
# Micron Semiconductor Fab Project

Clay, New York

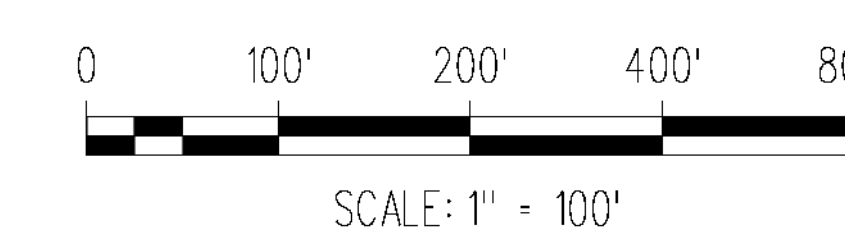
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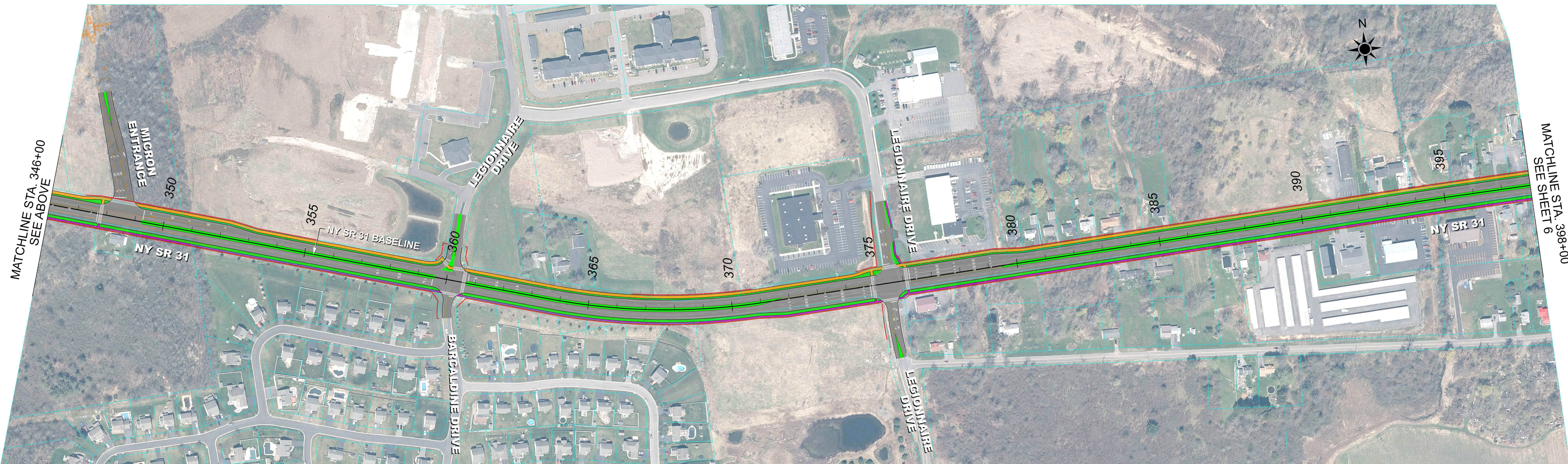


## Scale



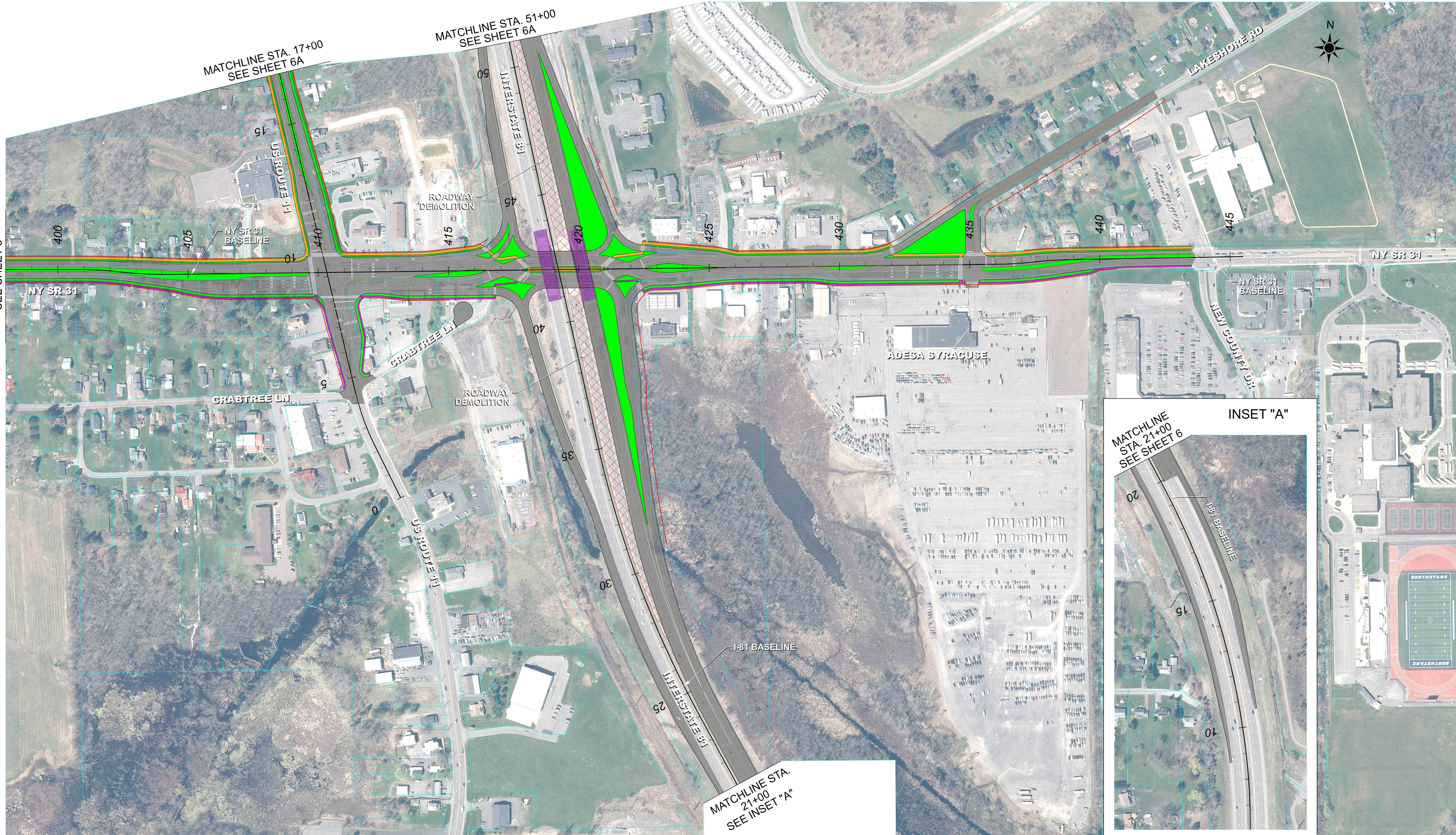
## Sheet Number

5





MATCHLINE STA. 398+00  
SEE SHEET 5



Department of Transportation

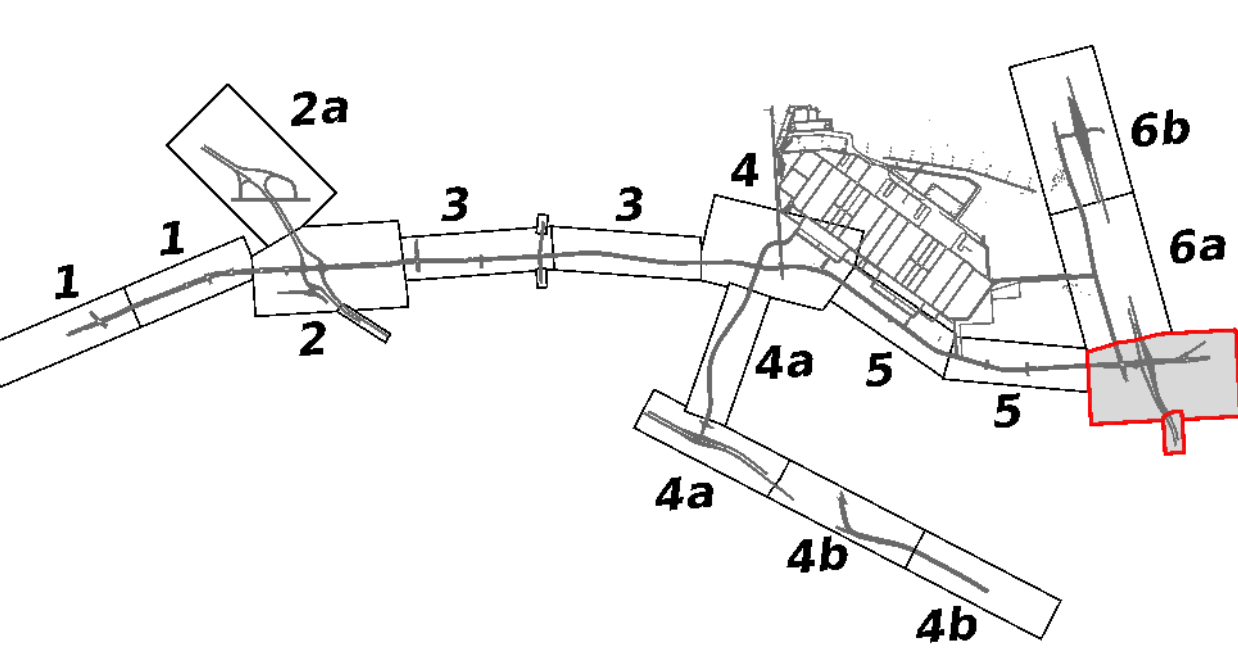
# Micron Semiconductor Fab Project

Clay, New York

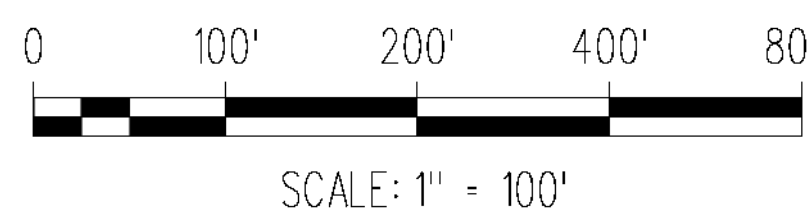
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## Key Map



## Scale



## Sheet Number

6





Department of Transportation

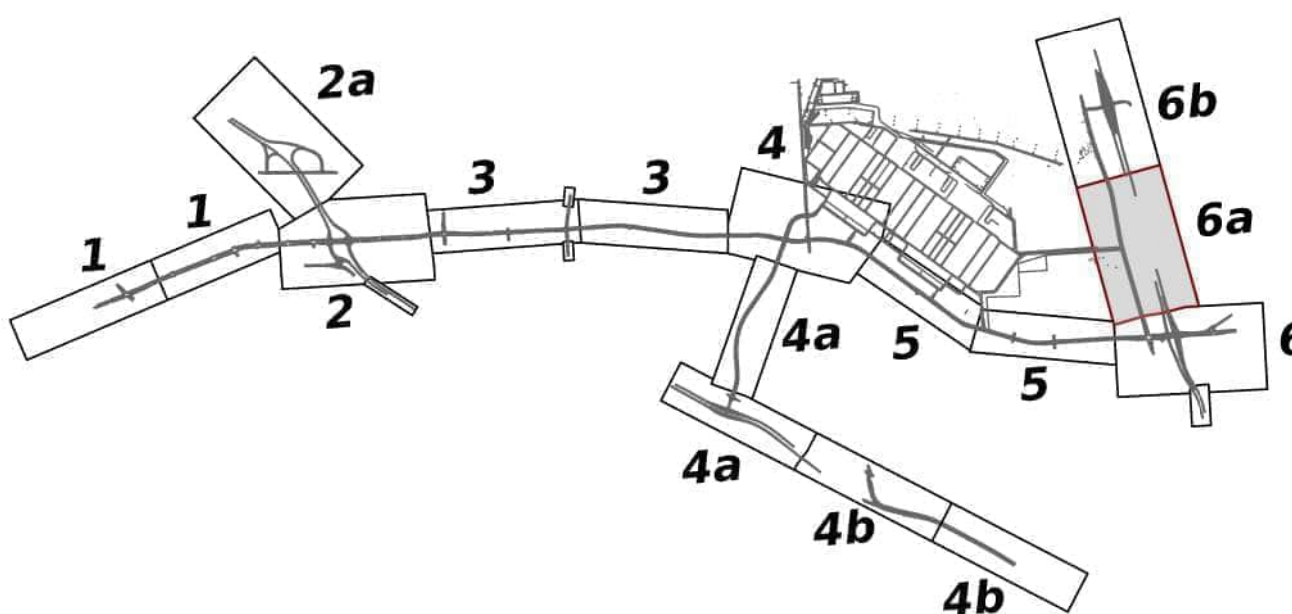
# Micron Semiconductor Fab Project

Clay, New York

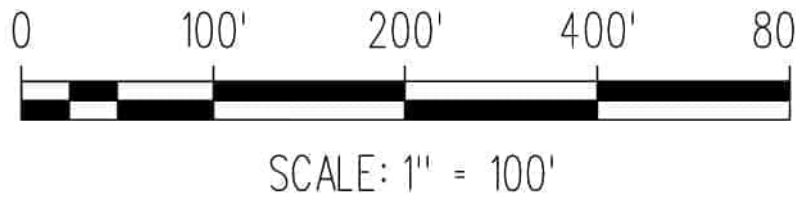
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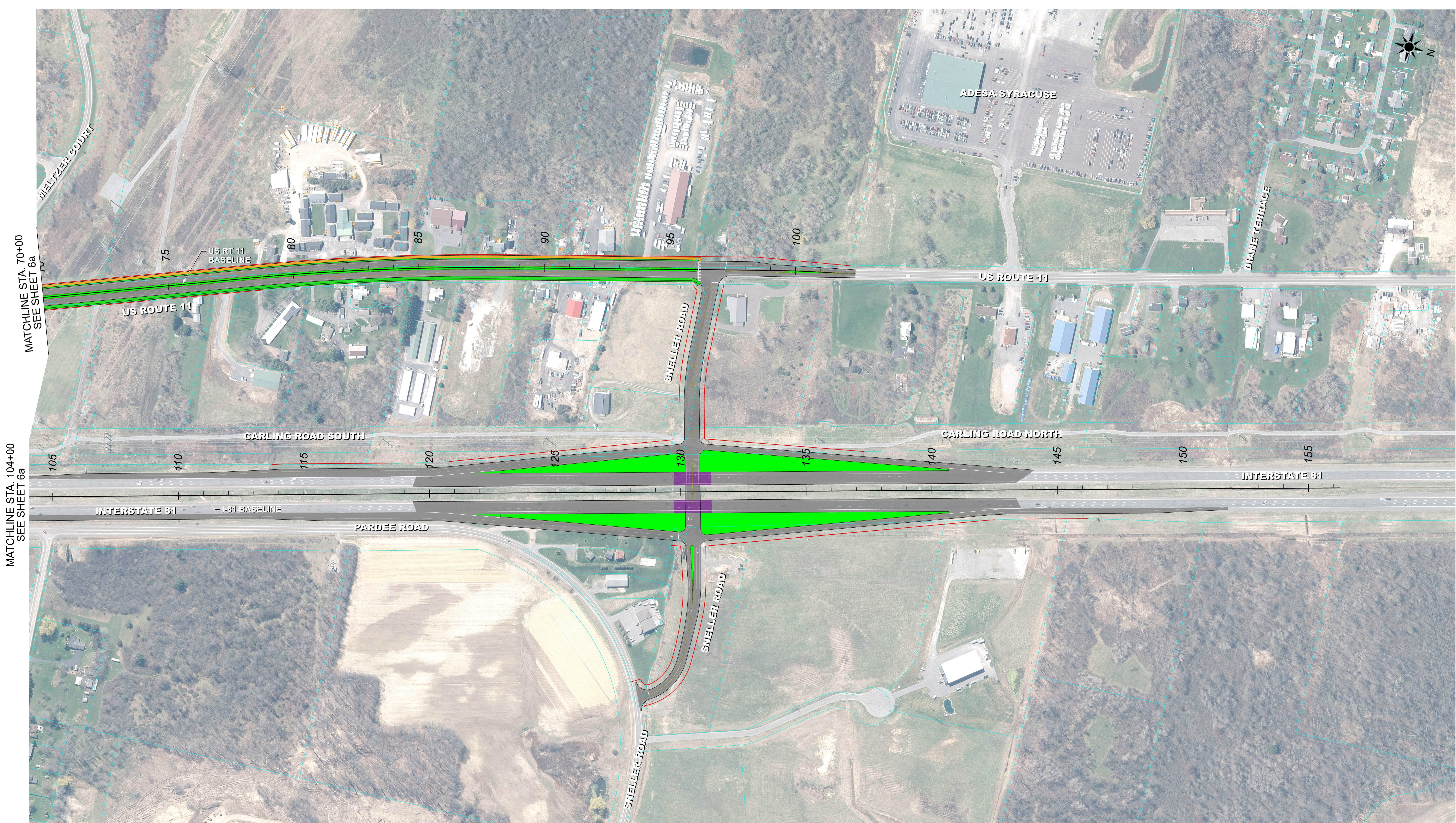


## Sheet Number

6a







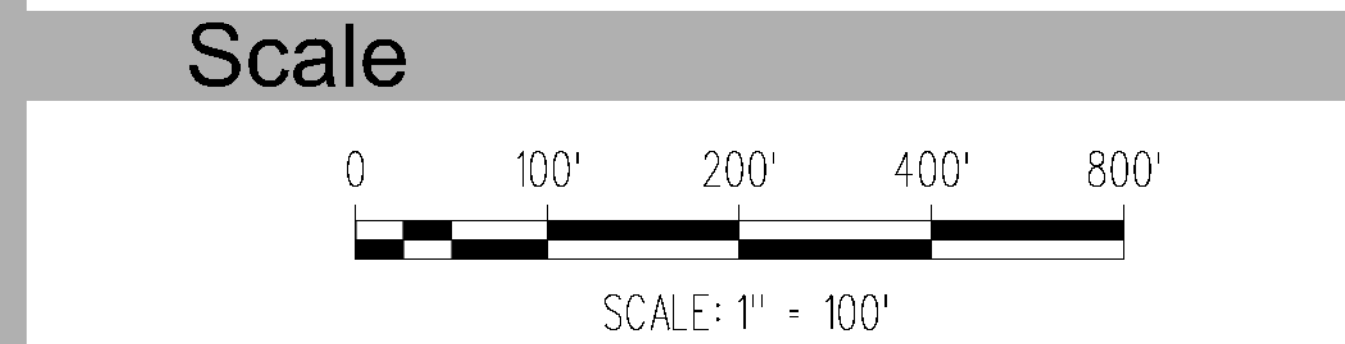
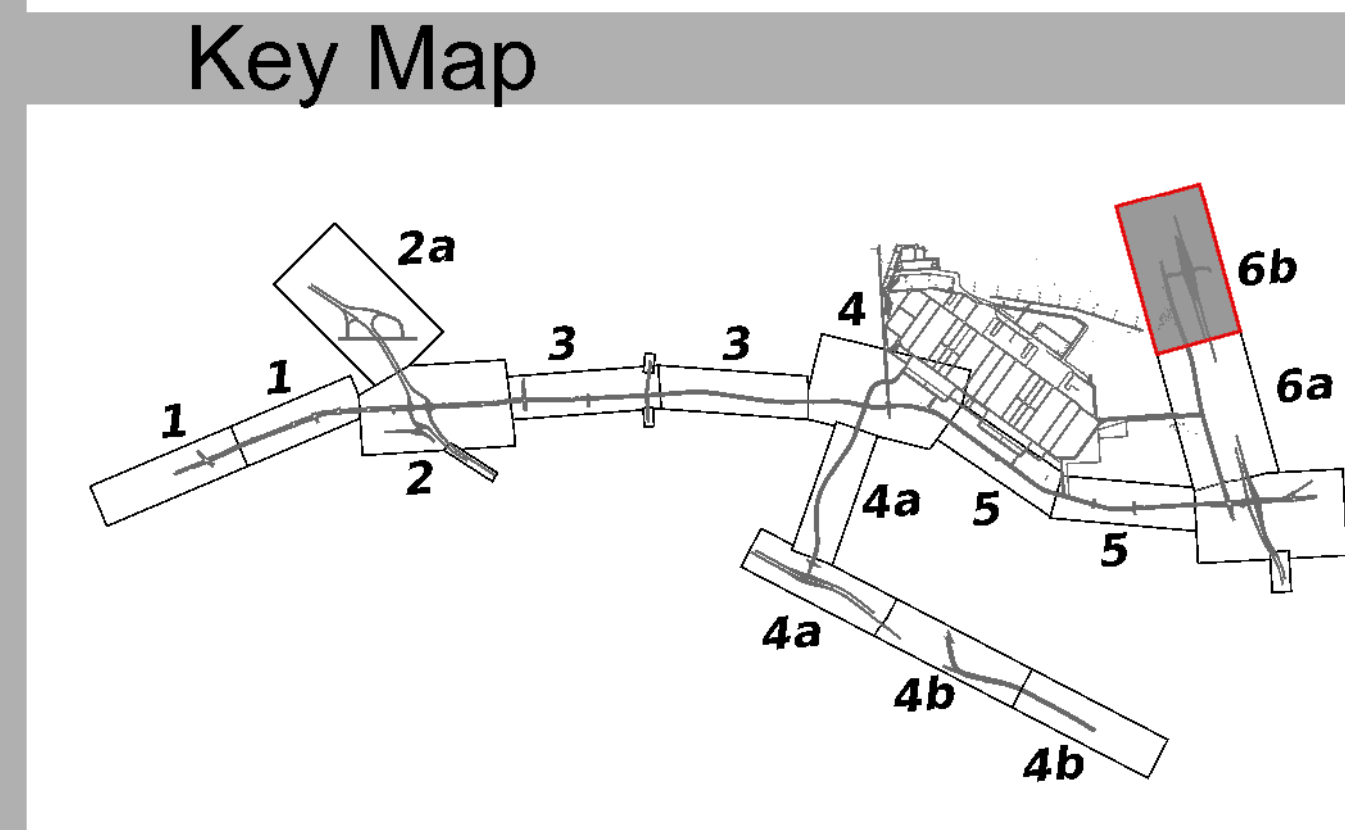
MATCHLINE STA. 70+00  
SEE SHEET 6a

MATCHLINE STA. 104+00  
SEE SHEET 6a

# Micron Semiconductor Fab Project

Clay, New York

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| Priority? | Intersection # | location                                          | 2026 mitigation Ideas                        | 2029 mitigation Ideas                    | NYS DOT Comments                                                                                                                                                                |
|-----------|----------------|---------------------------------------------------|----------------------------------------------|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|           | 1              | NY 31 & NY 481 SB                                 |                                              | DDI lanes added                          | optimize timing                                                                                                                                                                 |
|           | 2              | NY 31 & NY 481 NB                                 | NBL lane extended                            | DDI lanes added                          | optimize timing - consider lengthen storage within ROW - check with CME on status                                                                                               |
|           | 5              | NY 31 & Great Northern Mall East Parking Lot      | PM signal optimized                          | PM signal optimized                      | optimize timing                                                                                                                                                                 |
|           | 7              | NY 31 & Henry Clay Boulevard                      |                                              | EBR & WBR lanes added; NBL lane extended | <b>can't justify as existing problem, EBR, NBR, WBR possible</b>                                                                                                                |
|           | 8              | NY 31 & Grange Road West                          | Signal added                                 | AM signal optimized                      | can't justify as existing problem                                                                                                                                               |
|           | 11             | NY 31 & Caughdenoy Road                           | NBL, EBL, WBL, SBR lanes added, EB & WBL     | AM signal optimized                      | <b>can't justify as existing problem but need to improve since main entrance to Micron - NBL or NBR, EBL, WBL possible - have CME take quick look and Rich is investigating</b> |
|           | 12             | NY 31 & Stearns Road                              |                                              | Signal added                             | can't justify as existing problem                                                                                                                                               |
|           | 15             | NY 31 & Legionnaire Drive/Lawton Road             | PM signal optimized; EB approach & receiving |                                          | optimize timing                                                                                                                                                                 |
|           | 16             | NY 31 & US 11                                     | PM signal optimized; Crabtree Ln closed      | PM signal optimized                      | optimize timing                                                                                                                                                                 |
|           | 17             | NY 31 & I-81 SB Service Road                      | EBR lane & SB receiving lanes added; signal  | AM signal optimized                      | Close Crabtree Ln, add EB dedicated right, widen ramp to 2 lanes and taper before 81, optimize timing                                                                           |
|           | 18             | NY 31 & Pardee Road/I-81 NB Service Road          |                                              | NB lanes reconfigured to 2 NBL, 1 NBR    | Lengthen NB storage as much as possible within ROW, NB is double left, 1 NB thru, NBR added, optimize timing - check with CME on status                                         |
|           | 19             | NY 31 & Lakeshore Road                            | Signal added; clustered with node 20         |                                          | add signal, cluster with node 20                                                                                                                                                |
|           | 26             | Verplank Road & Caughdenoy Road                   |                                              | Signal added                             | can't justify as existing problem                                                                                                                                               |
|           | 31             | NY 481 SB On-Ramp & Soule Road                    | NBR RTOR disabled                            |                                          | <b>what do we gain by disabling NB RTOR? Consider making SB middle lane a thru/left and adding short 2nd receiving lane on SB on-ramp</b>                                       |
|           | 34             | US 11 & Bear Road                                 | SB lanes reconfigured to 2 SBL, 1 SBT, 1 SBR |                                          | as described in 2026 mitigation                                                                                                                                                 |
|           | 35             | Bear Road & I-481 EB Ramps                        | EBL turn bay extended; EB lanes reconfigured |                                          | as described in 2026 mitigation                                                                                                                                                 |
|           | 39             | US 11 & Caughdenoy Road                           | Signal added                                 |                                          | optimize existing signal                                                                                                                                                        |
|           | 40             | Caughdenoy Road & Maple Road & NY 481 NB Off-Ramp |                                              |                                          | temp signal with wooden poles since DOT EIS will modify again                                                                                                                   |
|           | 42             | NY 31 & Crabtree Lane                             | Intersection closed                          |                                          | Close Crabtree Ln, add EB dedicated right, widen ramp to 2 lanes and taper before 81, optimize timing - same as INT # 17                                                        |
|           | 43             | US 11 & Crabtree Lane                             | Signal added; WBL WBT movements added        |                                          | leave as-is, if we add a signal 31/11 could get worse - very little traffic will be on Crabtree once closed on other end                                                        |
|           | 69             | Morgan Road & Verplank Road                       |                                              | Signal added; EBL lane added; NB lanes   | can't justify as existing problem                                                                                                                                               |
|           | 70             | Morgan Road & Great Northern Mall Driveway 3      |                                              | Signal added                             | can't justify as existing problem                                                                                                                                               |
|           | 72             | Morgan Road & Great Northern Mall Driveway 4      |                                              | Signal added                             | can't justify as existing problem                                                                                                                                               |

we are now justifying for safety - see email from 9/12 @ 10:24 am

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we are now justifying for safety - see email from 9/12 @ 10:24 am

we are now justifying for safety - see email from 9/12 @ 10:24 am

STILL CAN'T JUSTIFY

we are now justifying for safety - see email from 9/12 @ 10:24 am - need to get county involved since these aren't state roads - correct?

STILL CAN'T JUSTIFY

STILL CAN'T JUSTIFY





| PROJECT COSTS - DESIGN BID BUILD                   |       | AMOUNT        |
|----------------------------------------------------|-------|---------------|
| PAVEMENT                                           |       | \$ 329,315.00 |
| TRAFFIC SIGNALS                                    |       | \$ -          |
| EARTHWORK                                          |       | \$ 59,896.00  |
| CURB AND SIDEWALKS                                 |       | \$ -          |
| GUIDE RAIL AND MEDIAN BARRIER                      |       | \$ -          |
| LIGHTING                                           |       | \$ -          |
| RETAINING WALLS                                    |       | \$ -          |
| NOISE WALLS                                        |       | \$ -          |
| UTILITIES                                          |       | \$ -          |
| DRAINAGE                                           |       | \$ -          |
| LARGE CULVERT                                      |       | \$ -          |
| OVERHEAD SIGN STRUCTURES                           |       | \$ -          |
| SIGNING AND PAVEMENT MARKINGS                      |       | \$ 8,000.00   |
| LANDSCAPING                                        |       | \$ 8,000.00   |
| ENVIRONMENTAL                                      |       | \$ -          |
| WZTC                                               |       | \$ 32,000.00  |
| SURVEY OPERATIONS                                  |       | \$ -          |
| BRIDGE                                             |       | \$ -          |
| STRUCTURES DEMOLITION                              |       | \$ -          |
| MISCELLANEOUS/INCIDENTALS                          | 0%    | \$ -          |
| FIELD CHANGE L =                                   | 0.050 | \$ 42,000.00  |
| MOBILIZATION                                       | 4%    | \$ 19,169.00  |
| SUBTOTAL IN BASE YEAR DOLLARS                      |       | \$ 499,000.00 |
| CONTINGENCY/RISK                                   | 20%   | \$ 99,800.00  |
| SUBTOTAL IN BASE YEAR DOLLARS                      |       | \$ 599,000.00 |
| COST DATA YEAR & MIDPOINT OF CONSTRUCTION YEAR     | 2024  | 1900          |
| INFLATION/ESCALATION TO MIDPOINT OF CONSTRUCTION   | 2%    | \$ -          |
| AWARD/CONSTRUCTION COST                            |       | \$ 599,000.00 |
| FINAL DESIGN                                       | 10%   | \$ 59,900.00  |
| QC AND ADMINISTRATION OF FINAL DESIGN AND CONTRACT | 3%    | \$ 17,970.00  |
| CONSTRUCTION INSPECTION                            | 7%    | \$ 41,930.00  |
| ROW                                                |       |               |
| TOTAL PROJECT COST (ROUNDED TO NEAREST \$10K):     |       | \$ 720,000.00 |





| PROJECT COSTS - DESIGN BID BUILD                   |       | AMOUNT          |
|----------------------------------------------------|-------|-----------------|
| PAVEMENT                                           |       | \$ 234,905.00   |
| TRAFFIC SIGNALS                                    |       | \$ 235,642.00   |
| EARTHWORK                                          |       | \$ 37,500.00    |
| CURB AND SIDEWALKS                                 |       | \$ -            |
| GUIDE RAIL AND MEDIAN BARRIER                      |       | \$ -            |
| LIGHTING                                           |       | \$ -            |
| RETAINING WALLS                                    |       | \$ -            |
| NOISE WALLS                                        |       | \$ -            |
| UTILITIES                                          |       | \$ 40,000.00    |
| DRAINAGE                                           |       | \$ 5,398.00     |
| LARGE CULVERT                                      |       | \$ -            |
| OVERHEAD SIGN STRUCTURES                           |       | \$ -            |
| SIGNING AND PAVEMENT MARKINGS                      |       | \$ 12,000.00    |
| LANDSCAPING                                        |       | \$ 12,000.00    |
| ENVIRONMENTAL                                      |       | \$ -            |
| WZTC                                               |       | \$ 45,000.00    |
| SURVEY OPERATIONS                                  |       | \$ -            |
| BRIDGE                                             |       | \$ -            |
| STRUCTURES DEMOLITION                              |       | \$ -            |
| MISCELLANEOUS/INCIDENTALS                          | 0%    | \$ -            |
| FIELD CHANGE L =                                   | 0.050 | \$ 60,000.00    |
| MOBILIZATION                                       | 4%    | \$ 27,298.00    |
| SUBTOTAL IN BASE YEAR DOLLARS                      |       | \$ 710,000.00   |
| CONTINGENCY/RISK                                   | 20%   | \$ 142,000.00   |
| SUBTOTAL IN BASE YEAR DOLLARS                      |       | \$ 852,000.00   |
| COST DATA YEAR & MIDPOINT OF CONSTRUCTION YEAR     | 2024  | 1901            |
| INFLATION/ESCALATION TO MIDPOINT OF CONSTRUCTION   | 2%    | \$ -            |
| AWARD/CONSTRUCTION COST                            |       | \$ 852,000.00   |
| FINAL DESIGN                                       | 10%   | \$ 85,200.00    |
| QC AND ADMINISTRATION OF FINAL DESIGN AND CONTRACT | 3%    | \$ 25,560.00    |
| CONSTRUCTION INSPECTION                            | 7%    | \$ 59,640.00    |
| ROW                                                |       |                 |
| TOTAL PROJECT COST (ROUNDED TO NEAREST \$10K):     |       | \$ 1,030,000.00 |



| PROJECT COSTS - DESIGN BID BUILD                   |       | AMOUNT        |
|----------------------------------------------------|-------|---------------|
| PAVEMENT                                           |       | \$ -          |
| TRAFFIC SIGNALS                                    |       | \$ 219,517.00 |
| EARTHWORK                                          |       | \$ -          |
| CURB AND SIDEWALKS                                 |       | \$ -          |
| GUIDE RAIL AND MEDIAN BARRIER                      |       | \$ -          |
| LIGHTING                                           |       | \$ -          |
| RETAINING WALLS                                    |       | \$ -          |
| NOISE WALLS                                        |       | \$ -          |
| UTILITIES                                          |       | \$ -          |
| DRAINAGE                                           |       | \$ -          |
| LARGE CULVERT                                      |       | \$ -          |
| OVERHEAD SIGN STRUCTURES                           |       | \$ -          |
| SIGNING AND PAVEMENT MARKINGS                      |       | \$ 5,000.00   |
| LANDSCAPING                                        |       | \$ -          |
| ENVIRONMENTAL                                      |       | \$ -          |
| WZTC                                               |       | \$ 18,000.00  |
| SURVEY OPERATIONS                                  |       | \$ -          |
| BRIDGE                                             |       | \$ -          |
| STRUCTURES DEMOLITION                              |       | \$ -          |
| MISCELLANEOUS/INCIDENTALS                          | 0%    | \$ -          |
| FIELD CHANGE L =                                   | 0.050 | \$ 24,000.00  |
| MOBILIZATION                                       | 4%    | \$ 10,661.00  |
| SUBTOTAL IN BASE YEAR DOLLARS                      |       | \$ 278,000.00 |
| CONTINGENCY/RISK                                   | 20%   | \$ 55,600.00  |
| SUBTOTAL IN BASE YEAR DOLLARS                      |       | \$ 334,000.00 |
| COST DATA YEAR & MIDPOINT OF CONSTRUCTION YEAR     | 2024  | 1901          |
| INFLATION/ESCALATION TO MIDPOINT OF CONSTRUCTION   | 2%    | \$ -          |
| AWARD/CONSTRUCTION COST                            |       | \$ 334,000.00 |
| FINAL DESIGN                                       | 10%   | \$ 33,400.00  |
| QC AND ADMINISTRATION OF FINAL DESIGN AND CONTRACT | 3%    | \$ 10,020.00  |
| CONSTRUCTION INSPECTION                            | 7%    | \$ 23,380.00  |
| ROW                                                |       |               |
| TOTAL PROJECT COST (ROUNDED TO NEAREST \$10K):     |       | \$ 410,000.00 |





| PROJECT COSTS - DESIGN BID BUILD                   |       | AMOUNT          |
|----------------------------------------------------|-------|-----------------|
| PAVEMENT                                           |       | \$ 512,981.00   |
| TRAFFIC SIGNALS                                    |       | \$ 272,114.00   |
| EARTHWORK                                          |       | \$ 61,973.00    |
| CURB AND SIDEWALKS                                 |       | \$ -            |
| GUIDE RAIL AND MEDIAN BARRIER                      |       | \$ -            |
| LIGHTING                                           |       | \$ -            |
| RETAINING WALLS                                    |       | \$ -            |
| NOISE WALLS                                        |       | \$ -            |
| UTILITIES                                          |       | \$ -            |
| DRAINAGE                                           |       | \$ -            |
| LARGE CULVERT                                      |       | \$ -            |
| OVERHEAD SIGN STRUCTURES                           |       | \$ -            |
| SIGNING AND PAVEMENT MARKINGS                      |       | \$ 17,000.00    |
| LANDSCAPING                                        |       | \$ 17,000.00    |
| ENVIRONMENTAL                                      |       | \$ -            |
| WZTC                                               |       | \$ 68,000.00    |
| SURVEY OPERATIONS                                  |       | \$ -            |
| BRIDGE                                             |       | \$ -            |
| STRUCTURES DEMOLITION                              |       | \$ -            |
| MISCELLANEOUS/INCIDENTALS                          | 0%    | \$ -            |
| FIELD CHANGE L =                                   | 0.050 | \$ 91,000.00    |
| MOBILIZATION                                       | 4%    | \$ 41,603.00    |
| SUBTOTAL IN BASE YEAR DOLLARS                      |       | \$ 1,082,000.00 |
| CONTINGENCY/RISK                                   | 20%   | \$ 216,400.00   |
| SUBTOTAL IN BASE YEAR DOLLARS                      |       | \$ 1,299,000.00 |
| COST DATA YEAR & MIDPOINT OF CONSTRUCTION YEAR     | 2024  | 1900            |
| INFLATION/ESCALATION TO MIDPOINT OF CONSTRUCTION   | 2%    | \$ -            |
| AWARD/CONSTRUCTION COST                            |       | \$ 1,299,000.00 |
| FINAL DESIGN                                       | 10%   | \$ 129,900.00   |
| QC AND ADMINISTRATION OF FINAL DESIGN AND CONTRACT | 3%    | \$ 38,970.00    |
| CONSTRUCTION INSPECTION                            | 7%    | \$ 90,930.00    |
| ROW                                                |       |                 |
| TOTAL PROJECT COST (ROUNDED TO NEAREST \$10K):     |       | \$ 1,560,000.00 |



| PROJECT COSTS - DESIGN BID BUILD                   |       | AMOUNT        |
|----------------------------------------------------|-------|---------------|
| PAVEMENT                                           |       | \$ -          |
| TRAFFIC SIGNALS                                    |       | \$ 219,517.00 |
| EARTHWORK                                          |       | \$ -          |
| CURB AND SIDEWALKS                                 |       | \$ -          |
| GUIDE RAIL AND MEDIAN BARRIER                      |       | \$ -          |
| LIGHTING                                           |       | \$ -          |
| RETAINING WALLS                                    |       | \$ -          |
| NOISE WALLS                                        |       | \$ -          |
| UTILITIES                                          |       | \$ -          |
| DRAINAGE                                           |       | \$ -          |
| LARGE CULVERT                                      |       | \$ -          |
| OVERHEAD SIGN STRUCTURES                           |       | \$ -          |
| SIGNING AND PAVEMENT MARKINGS                      |       | \$ 5,000.00   |
| LANDSCAPING                                        |       | \$ -          |
| ENVIRONMENTAL                                      |       | \$ -          |
| WZTC                                               |       | \$ 18,000.00  |
| SURVEY OPERATIONS                                  |       | \$ -          |
| BRIDGE                                             |       | \$ -          |
| STRUCTURES DEMOLITION                              |       | \$ -          |
| MISCELLANEOUS/INCIDENTALS                          | 0%    | \$ -          |
| FIELD CHANGE L =                                   | 0.050 | \$ 24,000.00  |
| MOBILIZATION                                       | 4%    | \$ 10,661.00  |
| SUBTOTAL IN BASE YEAR DOLLARS                      |       | \$ 278,000.00 |
| CONTINGENCY/RISK                                   | 20%   | \$ 55,600.00  |
| SUBTOTAL IN BASE YEAR DOLLARS                      |       | \$ 334,000.00 |
| COST DATA YEAR & MIDPOINT OF CONSTRUCTION YEAR     | 2024  | 1901          |
| INFLATION/ESCALATION TO MIDPOINT OF CONSTRUCTION   | 2%    | \$ -          |
| AWARD/CONSTRUCTION COST                            |       | \$ 334,000.00 |
| FINAL DESIGN                                       | 10%   | \$ 33,400.00  |
| QC AND ADMINISTRATION OF FINAL DESIGN AND CONTRACT | 3%    | \$ 10,020.00  |
| CONSTRUCTION INSPECTION                            | 7%    | \$ 23,380.00  |
| ROW                                                |       |               |
| TOTAL PROJECT COST (ROUNDED TO NEAREST \$10K):     |       | \$ 410,000.00 |





| PROJECT COSTS - DESIGN BID BUILD                   |       | AMOUNT        |
|----------------------------------------------------|-------|---------------|
| PAVEMENT                                           |       | \$ 147,358.00 |
| TRAFFIC SIGNALS                                    |       | \$ 41,584.00  |
| EARTHWORK                                          |       | \$ 51,088.00  |
| CURB AND SIDEWALKS                                 |       | \$ 86,771.00  |
| GUIDE RAIL AND MEDIAN BARRIER                      |       | \$ 48,176.00  |
| LIGHTING                                           |       | \$ -          |
| RETAINING WALLS                                    |       | \$ -          |
| NOISE WALLS                                        |       | \$ -          |
| UTILITIES                                          |       | \$ -          |
| DRAINAGE                                           |       | \$ -          |
| LARGE CULVERT                                      |       | \$ -          |
| OVERHEAD SIGN STRUCTURES                           |       | \$ -          |
| SIGNING AND PAVEMENT MARKINGS                      |       | \$ 8,000.00   |
| LANDSCAPING                                        |       | \$ 8,000.00   |
| ENVIRONMENTAL                                      |       | \$ -          |
| WZTC                                               |       | \$ 30,000.00  |
| SURVEY OPERATIONS                                  |       | \$ 4,000.00   |
| BRIDGE                                             |       | \$ -          |
| STRUCTURES DEMOLITION                              |       | \$ -          |
| MISCELLANEOUS/INCIDENTALS                          | 0%    | \$ -          |
| FIELD CHANGE L =                                   | 0.050 | \$ 41,000.00  |
| MOBILIZATION                                       | 4%    | \$ 18,640.00  |
| SUBTOTAL IN BASE YEAR DOLLARS                      |       | \$ 485,000.00 |
| CONTINGENCY/RISK                                   | 20%   | \$ 97,000.00  |
| SUBTOTAL IN BASE YEAR DOLLARS                      |       | \$ 582,000.00 |
| COST DATA YEAR & MIDPOINT OF CONSTRUCTION YEAR     | 2024  | 1900          |
| INFLATION/ESCALATION TO MIDPOINT OF CONSTRUCTION   | 2%    | \$ -          |
| AWARD/CONSTRUCTION COST                            |       | \$ 582,000.00 |
| FINAL DESIGN                                       | 10%   | \$ 58,200.00  |
| QC AND ADMINISTRATION OF FINAL DESIGN AND CONTRACT | 3%    | \$ 17,460.00  |
| CONSTRUCTION INSPECTION                            | 7%    | \$ 40,740.00  |
| ROW                                                |       |               |
| TOTAL PROJECT COST (ROUNDED TO NEAREST \$10K):     |       | \$ 700,000.00 |





| PROJECT COSTS - DESIGN BID BUILD                   |       | AMOUNT        |
|----------------------------------------------------|-------|---------------|
| PAVEMENT                                           |       | \$ 98,626.00  |
| TRAFFIC SIGNALS                                    |       | \$ 87,089.00  |
| EARTHWORK                                          |       | \$ 1,748.00   |
| CURB AND SIDEWALKS                                 |       | \$ 7,079.00   |
| GUIDE RAIL AND MEDIAN BARRIER                      |       | \$ 13,122.00  |
| LIGHTING                                           |       | \$ -          |
| RETAINING WALLS                                    |       | \$ -          |
| NOISE WALLS                                        |       | \$ -          |
| UTILITIES                                          |       | \$ -          |
| DRAINAGE                                           |       | \$ -          |
| LARGE CULVERT                                      |       | \$ -          |
| OVERHEAD SIGN STRUCTURES                           |       | \$ -          |
| SIGNING AND PAVEMENT MARKINGS                      |       | \$ 5,000.00   |
| LANDSCAPING                                        |       | \$ 5,000.00   |
| ENVIRONMENTAL                                      |       | \$ -          |
| WZTC                                               |       | \$ 17,000.00  |
| SURVEY OPERATIONS                                  |       | \$ -          |
| BRIDGE                                             |       | \$ -          |
| STRUCTURES DEMOLITION                              |       | \$ -          |
| MISCELLANEOUS/INCIDENTALS                          | 0%    | \$ -          |
| FIELD CHANGE L =                                   | 0.050 | \$ 23,000.00  |
| MOBILIZATION                                       | 4%    | \$ 10,307.00  |
| SUBTOTAL IN BASE YEAR DOLLARS                      |       | \$ 268,000.00 |
| CONTINGENCY/RISK                                   | 20%   | \$ 53,600.00  |
| SUBTOTAL IN BASE YEAR DOLLARS                      |       | \$ 322,000.00 |
| COST DATA YEAR & MIDPOINT OF CONSTRUCTION YEAR     | 2024  | 1900          |
| INFLATION/ESCALATION TO MIDPOINT OF CONSTRUCTION   | 2%    | \$ -          |
| AWARD/CONSTRUCTION COST                            |       | \$ 322,000.00 |
| FINAL DESIGN                                       | 10%   | \$ 32,200.00  |
| QC AND ADMINISTRATION OF FINAL DESIGN AND CONTRACT | 3%    | \$ 9,660.00   |
| CONSTRUCTION INSPECTION                            | 7%    | \$ 22,540.00  |
| ROW                                                |       |               |
| TOTAL PROJECT COST (ROUNDED TO NEAREST \$10K):     |       | \$ 390,000.00 |



| PROJECT COSTS - DESIGN BID BUILD                   |       | AMOUNT        |
|----------------------------------------------------|-------|---------------|
| PAVEMENT                                           |       | \$ 253,428.00 |
| TRAFFIC SIGNALS                                    |       | \$ 21,200.00  |
| EARTHWORK                                          |       | \$ 16,100.00  |
| CURB AND SIDEWALKS                                 |       | \$ -          |
| GUIDE RAIL AND MEDIAN BARRIER                      |       | \$ -          |
| LIGHTING                                           |       | \$ 17,562.00  |
| RETAINING WALLS                                    |       | \$ -          |
| NOISE WALLS                                        |       | \$ -          |
| UTILITIES                                          |       | \$ -          |
| DRAINAGE                                           |       | \$ -          |
| LARGE CULVERT                                      |       | \$ -          |
| OVERHEAD SIGN STRUCTURES                           |       | \$ -          |
| SIGNING AND PAVEMENT MARKINGS                      |       | \$ 7,000.00   |
| LANDSCAPING                                        |       | \$ 13,000.00  |
| ENVIRONMENTAL                                      |       | \$ -          |
| WZTC                                               |       | \$ 25,000.00  |
| SURVEY OPERATIONS                                  |       | \$ 4,000.00   |
| BRIDGE                                             |       | \$ -          |
| STRUCTURES DEMOLITION                              |       | \$ -          |
| MISCELLANEOUS/INCIDENTALS                          | 0%    | \$ -          |
| FIELD CHANGE L =                                   | 0.050 | \$ 34,000.00  |
| MOBILIZATION                                       | 4%    | \$ 15,652.00  |
| SUBTOTAL IN BASE YEAR DOLLARS                      |       | \$ 407,000.00 |
| CONTINGENCY/RISK                                   | 20%   | \$ 81,400.00  |
| SUBTOTAL IN BASE YEAR DOLLARS                      |       | \$ 489,000.00 |
| COST DATA YEAR & MIDPOINT OF CONSTRUCTION YEAR     | 2024  | 1900          |
| INFLATION/ESCALATION TO MIDPOINT OF CONSTRUCTION   | 2%    | \$ -          |
| AWARD/CONSTRUCTION COST                            |       | \$ 489,000.00 |
| FINAL DESIGN                                       | 10%   | \$ 48,900.00  |
| QC AND ADMINISTRATION OF FINAL DESIGN AND CONTRACT | 3%    | \$ 14,670.00  |
| CONSTRUCTION INSPECTION                            | 7%    | \$ 34,230.00  |
| ROW                                                |       |               |
| TOTAL PROJECT COST (ROUNDED TO NEAREST \$10K):     |       | \$ 590,000.00 |





| PROJECT COSTS - DESIGN BID BUILD                   |       | AMOUNT        |
|----------------------------------------------------|-------|---------------|
| PAVEMENT                                           |       | \$ 111,650.00 |
| TRAFFIC SIGNALS                                    |       | \$ 146,310.00 |
| EARTHWORK                                          |       | \$ 20,371.00  |
| CURB AND SIDEWALKS                                 |       | \$ -          |
| GUIDE RAIL AND MEDIAN BARRIER                      |       | \$ -          |
| LIGHTING                                           |       | \$ -          |
| RETAINING WALLS                                    |       | \$ -          |
| NOISE WALLS                                        |       | \$ -          |
| UTILITIES                                          |       | \$ -          |
| DRAINAGE                                           |       | \$ -          |
| LARGE CULVERT                                      |       | \$ -          |
| OVERHEAD SIGN STRUCTURES                           |       | \$ -          |
| SIGNING AND PAVEMENT MARKINGS                      |       | \$ 12,000.00  |
| LANDSCAPING                                        |       | \$ 6,000.00   |
| ENVIRONMENTAL                                      |       | \$ -          |
| WZTC                                               |       | \$ 23,000.00  |
| SURVEY OPERATIONS                                  |       | \$ -          |
| BRIDGE                                             |       | \$ -          |
| STRUCTURES DEMOLITION                              |       | \$ -          |
| MISCELLANEOUS/INCIDENTALS                          | 0%    | \$ -          |
| FIELD CHANGE L =                                   | 0.050 | \$ 31,000.00  |
| MOBILIZATION                                       | 4%    | \$ 14,014.00  |
| SUBTOTAL IN BASE YEAR DOLLARS                      |       | \$ 365,000.00 |
| CONTINGENCY/RISK                                   | 20%   | \$ 73,000.00  |
| SUBTOTAL IN BASE YEAR DOLLARS                      |       | \$ 438,000.00 |
| COST DATA YEAR & MIDPOINT OF CONSTRUCTION YEAR     | 2024  | 1900          |
| INFLATION/ESCALATION TO MIDPOINT OF CONSTRUCTION   | 2%    | \$ -          |
| AWARD/CONSTRUCTION COST                            |       | \$ 438,000.00 |
| FINAL DESIGN                                       | 10%   | \$ 43,800.00  |
| QC AND ADMINISTRATION OF FINAL DESIGN AND CONTRACT | 3%    | \$ 13,140.00  |
| CONSTRUCTION INSPECTION                            | 7%    | \$ 30,660.00  |
| ROW                                                |       |               |
| TOTAL PROJECT COST (ROUNDED TO NEAREST \$10K):     |       | \$ 530,000.00 |





| PROJECT COSTS - DESIGN BID BUILD                   |       | AMOUNT        |
|----------------------------------------------------|-------|---------------|
| PAVEMENT                                           |       | \$ 281,787.00 |
| TRAFFIC SIGNALS                                    |       | \$ -          |
| EARTHWORK                                          |       | \$ 60,766.00  |
| CURB AND SIDEWALKS                                 |       | \$ -          |
| GUIDE RAIL AND MEDIAN BARRIER                      |       | \$ -          |
| LIGHTING                                           |       | \$ -          |
| RETAINING WALLS                                    |       | \$ -          |
| NOISE WALLS                                        |       | \$ -          |
| UTILITIES                                          |       | \$ -          |
| DRAINAGE                                           |       | \$ -          |
| LARGE CULVERT                                      |       | \$ -          |
| OVERHEAD SIGN STRUCTURES                           |       | \$ -          |
| SIGNING AND PAVEMENT MARKINGS                      |       | \$ 14,000.00  |
| LANDSCAPING                                        |       | \$ 7,000.00   |
| ENVIRONMENTAL                                      |       | \$ -          |
| WZTC                                               |       | \$ 28,000.00  |
| SURVEY OPERATIONS                                  |       | \$ -          |
| BRIDGE                                             |       | \$ -          |
| STRUCTURES DEMOLITION                              |       | \$ -          |
| MISCELLANEOUS/INCIDENTALS                          | 0%    | \$ -          |
| FIELD CHANGE L =                                   | 0.050 | \$ 38,000.00  |
| MOBILIZATION                                       | 4%    | \$ 17,183.00  |
| SUBTOTAL IN BASE YEAR DOLLARS                      |       | \$ 447,000.00 |
| CONTINGENCY/RISK                                   | 20%   | \$ 89,400.00  |
| SUBTOTAL IN BASE YEAR DOLLARS                      |       | \$ 537,000.00 |
| COST DATA YEAR & MIDPOINT OF CONSTRUCTION YEAR     | 2024  | 1900          |
| INFLATION/ESCALATION TO MIDPOINT OF CONSTRUCTION   | 2%    | \$ -          |
| AWARD/CONSTRUCTION COST                            |       | \$ 537,000.00 |
| FINAL DESIGN                                       | 10%   | \$ 53,700.00  |
| QC AND ADMINISTRATION OF FINAL DESIGN AND CONTRACT | 3%    | \$ 16,110.00  |
| CONSTRUCTION INSPECTION                            | 7%    | \$ 37,590.00  |
| ROW                                                |       |               |
| TOTAL PROJECT COST (ROUNDED TO NEAREST \$10K):     |       | \$ 650,000.00 |





| PROJECT COSTS - DESIGN BID BUILD                   |       | AMOUNT        |
|----------------------------------------------------|-------|---------------|
| PAVEMENT                                           |       | \$ -          |
| TRAFFIC SIGNALS                                    |       | \$ 170,396.00 |
| EARTHWORK                                          |       | \$ -          |
| CURB AND SIDEWALKS                                 |       | \$ -          |
| GUIDE RAIL AND MEDIAN BARRIER                      |       | \$ -          |
| LIGHTING                                           |       | \$ -          |
| RETAINING WALLS                                    |       | \$ -          |
| NOISE WALLS                                        |       | \$ -          |
| UTILITIES                                          |       | \$ -          |
| DRAINAGE                                           |       | \$ -          |
| LARGE CULVERT                                      |       | \$ -          |
| OVERHEAD SIGN STRUCTURES                           |       | \$ -          |
| SIGNING AND PAVEMENT MARKINGS                      |       | \$ 4,000.00   |
| LANDSCAPING                                        |       | \$ -          |
| ENVIRONMENTAL                                      |       | \$ -          |
| WZTC                                               |       | \$ 14,000.00  |
| SURVEY OPERATIONS                                  |       | \$ -          |
| BRIDGE                                             |       | \$ -          |
| STRUCTURES DEMOLITION                              |       | \$ -          |
| MISCELLANEOUS/INCIDENTALS                          | 0%    | \$ -          |
| FIELD CHANGE L =                                   | 0.050 | \$ 18,000.00  |
| MOBILIZATION                                       | 4%    | \$ 8,256.00   |
| SUBTOTAL IN BASE YEAR DOLLARS                      |       | \$ 215,000.00 |
| CONTINGENCY/RISK                                   | 20%   | \$ 43,000.00  |
| SUBTOTAL IN BASE YEAR DOLLARS                      |       | \$ 258,000.00 |
| COST DATA YEAR & MIDPOINT OF CONSTRUCTION YEAR     | 2024  | 1901          |
| INFLATION/ESCALATION TO MIDPOINT OF CONSTRUCTION   | 2%    | \$ -          |
| AWARD/CONSTRUCTION COST                            |       | \$ 258,000.00 |
| FINAL DESIGN                                       | 10%   | \$ 25,800.00  |
| QC AND ADMINISTRATION OF FINAL DESIGN AND CONTRACT | 3%    | \$ 7,740.00   |
| CONSTRUCTION INSPECTION                            | 7%    | \$ 18,060.00  |
| ROW                                                |       |               |
| TOTAL PROJECT COST (ROUNDED TO NEAREST \$10K):     |       | \$ 310,000.00 |

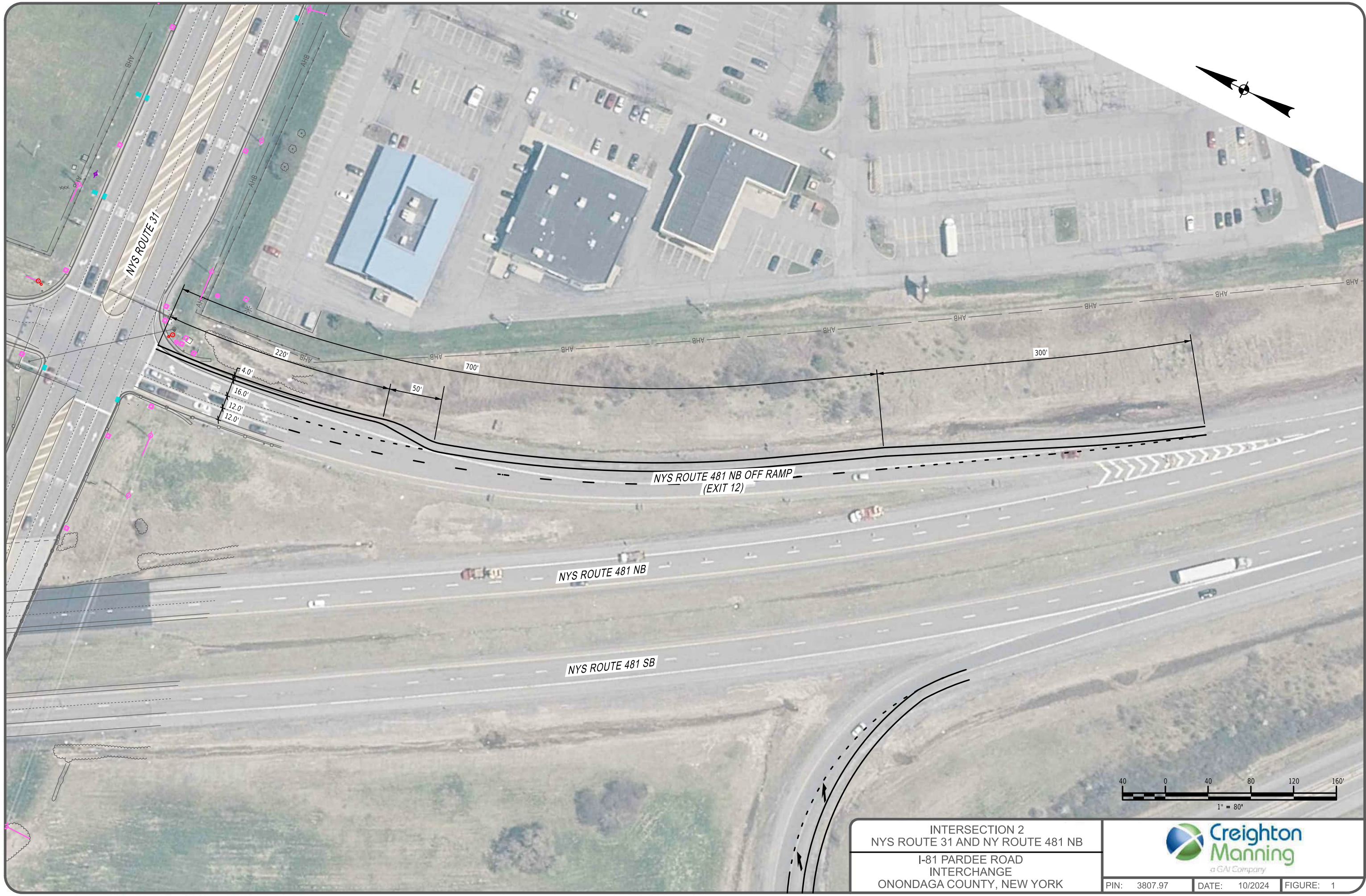




| PROJECT COSTS - DESIGN BID BUILD                   |       | AMOUNT        |
|----------------------------------------------------|-------|---------------|
| PAVEMENT                                           |       | \$ 86,731.00  |
| TRAFFIC SIGNALS                                    |       | \$ -          |
| EARTHWORK                                          |       | \$ -          |
| CURB AND SIDEWALKS                                 |       | \$ -          |
| GUIDE RAIL AND MEDIAN BARRIER                      |       | \$ -          |
| LIGHTING                                           |       | \$ 17,562.00  |
| RETAINING WALLS                                    |       | \$ -          |
| NOISE WALLS                                        |       | \$ -          |
| UTILITIES                                          |       | \$ -          |
| DRAINAGE                                           |       | \$ -          |
| LARGE CULVERT                                      |       | \$ -          |
| OVERHEAD SIGN STRUCTURES                           |       | \$ -          |
| SIGNING AND PAVEMENT MARKINGS                      |       | \$ 7,000.00   |
| LANDSCAPING                                        |       | \$ 3,000.00   |
| ENVIRONMENTAL                                      |       | \$ -          |
| WZTC                                               |       | \$ 9,000.00   |
| SURVEY OPERATIONS                                  |       | \$ -          |
| BRIDGE                                             |       | \$ -          |
| STRUCTURES DEMOLITION                              |       | \$ -          |
| MISCELLANEOUS/INCIDENTALS                          | 0%    | \$ -          |
| FIELD CHANGE L =                                   | 0.050 | \$ 12,000.00  |
| MOBILIZATION                                       | 4%    | \$ 5,412.00   |
| SUBTOTAL IN BASE YEAR DOLLARS                      |       | \$ 141,000.00 |
| CONTINGENCY/RISK                                   | 20%   | \$ 28,200.00  |
| SUBTOTAL IN BASE YEAR DOLLARS                      |       | \$ 170,000.00 |
| COST DATA YEAR & MIDPOINT OF CONSTRUCTION YEAR     | 2024  | 1900          |
| INFLATION/ESCALATION TO MIDPOINT OF CONSTRUCTION   | 2%    | \$ -          |
| AWARD/CONSTRUCTION COST                            |       | \$ 170,000.00 |
| FINAL DESIGN                                       | 10%   | \$ 17,000.00  |
| QC AND ADMINISTRATION OF FINAL DESIGN AND CONTRACT | 3%    | \$ 5,100.00   |
| CONSTRUCTION INSPECTION                            | 7%    | \$ 11,900.00  |
| ROW                                                |       |               |
| TOTAL PROJECT COST (ROUNDED TO NEAREST \$10K):     |       | \$ 210,000.00 |



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DATE/TIME : 10/25/2024  
USER : dfisher



INTERSECTION 2  
NYS ROUTE 31 AND NY ROUTE 481 NB  
I-81 PARDEE ROAD  
INTERCHANGE  
ONONDAGA COUNTY, NEW YORK



|              |               |           |
|--------------|---------------|-----------|
| PIN: 3807.97 | DATE: 10/2024 | FIGURE: 1 |
|--------------|---------------|-----------|



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USER = dfisher



INTERSECTION 18  
NYS ROUTE 31 AND I-81 NB  
I-81 PARDEE ROAD  
INTERCHANGE  
ONONDAGA COUNTY, NEW YORK



Creighton  
Manning  
a GAI Company

|              |               |           |
|--------------|---------------|-----------|
| PIN: 3807.97 | DATE: 10/2024 | FIGURE: 2 |
|--------------|---------------|-----------|



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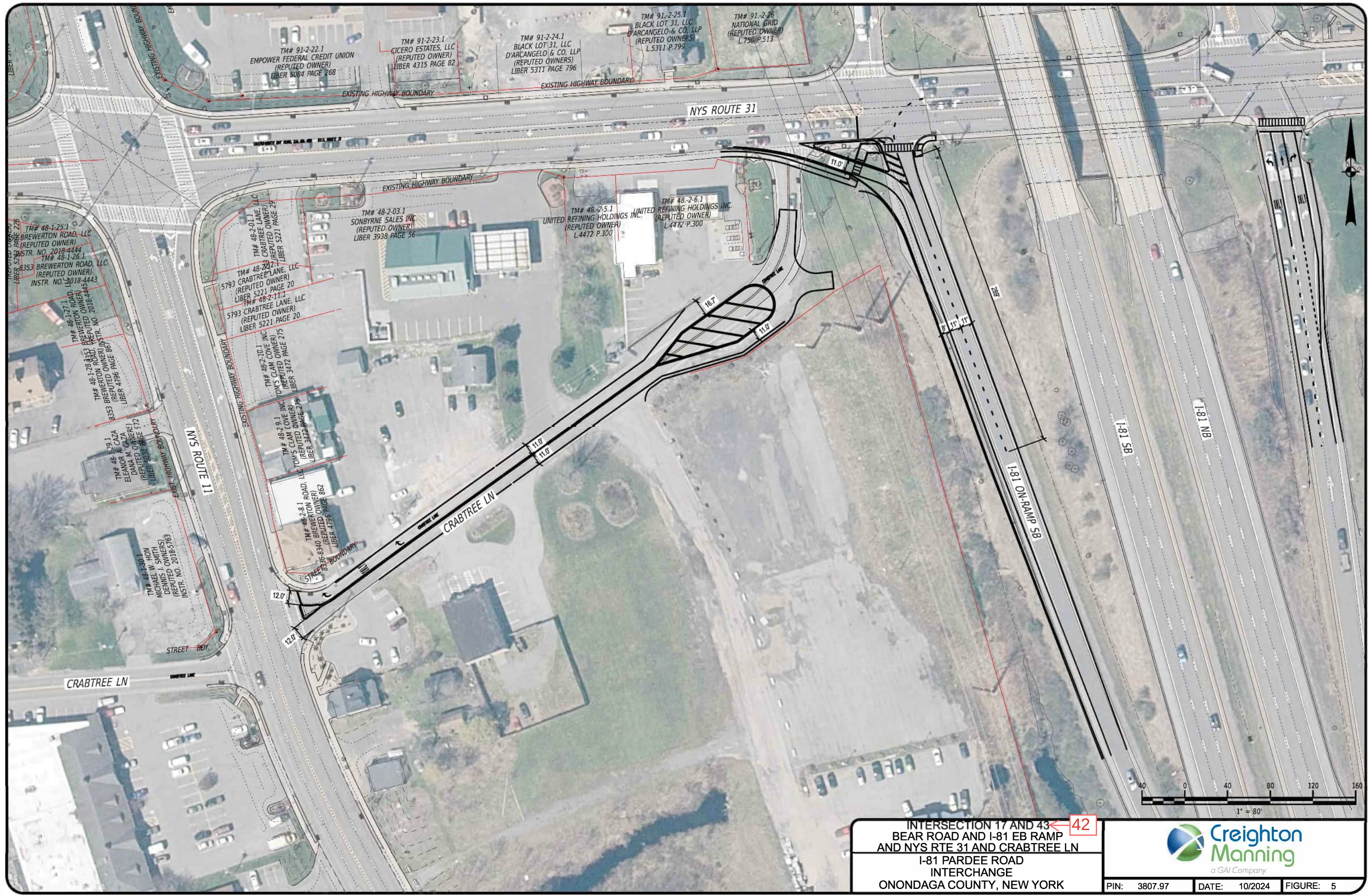
INTERSECTION 35  
NEAR ROAD (CR 191) &  
US ROUTE I-481 EB RAMP  
I-81 PARDEE ROAD  
INTERCHANGE  
ONONDAGA COUNTY, NEW YORK



PIN: 3807.97    DATE: 10/2024    FIGURE: 4



FILE NAME = N:\Projects\2020\128-283.08 NYSDOT - I-81 Pardee Road Interchange\Working\CAAD\dgn\connect\figures\128-283.08.fg Loc.05 - int.17 and 43.dgn  
DATE/TIME = 10/25/2024  
USER = dfisher



INTERSECTION 17 AND 43  
BEAR ROAD AND I-81 EB RAMP  
AND NYS RTE 31 AND CRABTREE LN  
I-81 PARDEE ROAD  
INTERCHANGE  
ONONDAGA COUNTY, NEW YORK



Creighton  
Manning  
a GAI Company

PIN: 3807.97

DATE: 10/2024

FIGURE: 5



FILE NAME = N:\Projects\2020\120-283.08 NYS00T - I-81 Pardee Road Interchange\Working\CADD\ign\_connect\Figures\120-283.08\_fig\_10c.dgn  
DATE/TIME = 10/25/2024  
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INTERSECTION 31  
SOULE ROAD (CR 96) AND  
NYS ROUTE 481 SB ON-RAMP  
I-81 PARDEE ROAD  
INTERCHANGE  
ONONDAGA COUNTY, NEW YORK



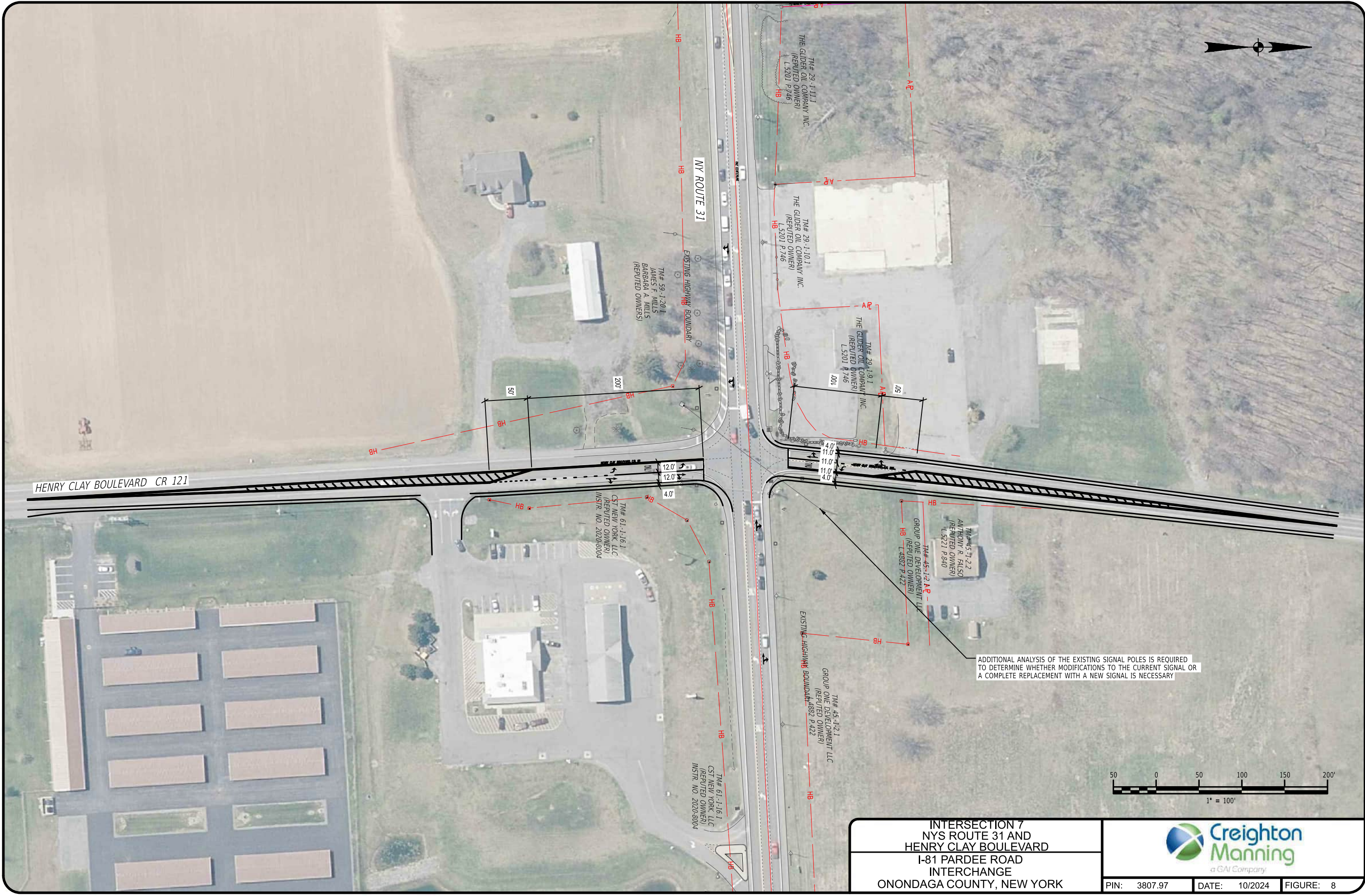
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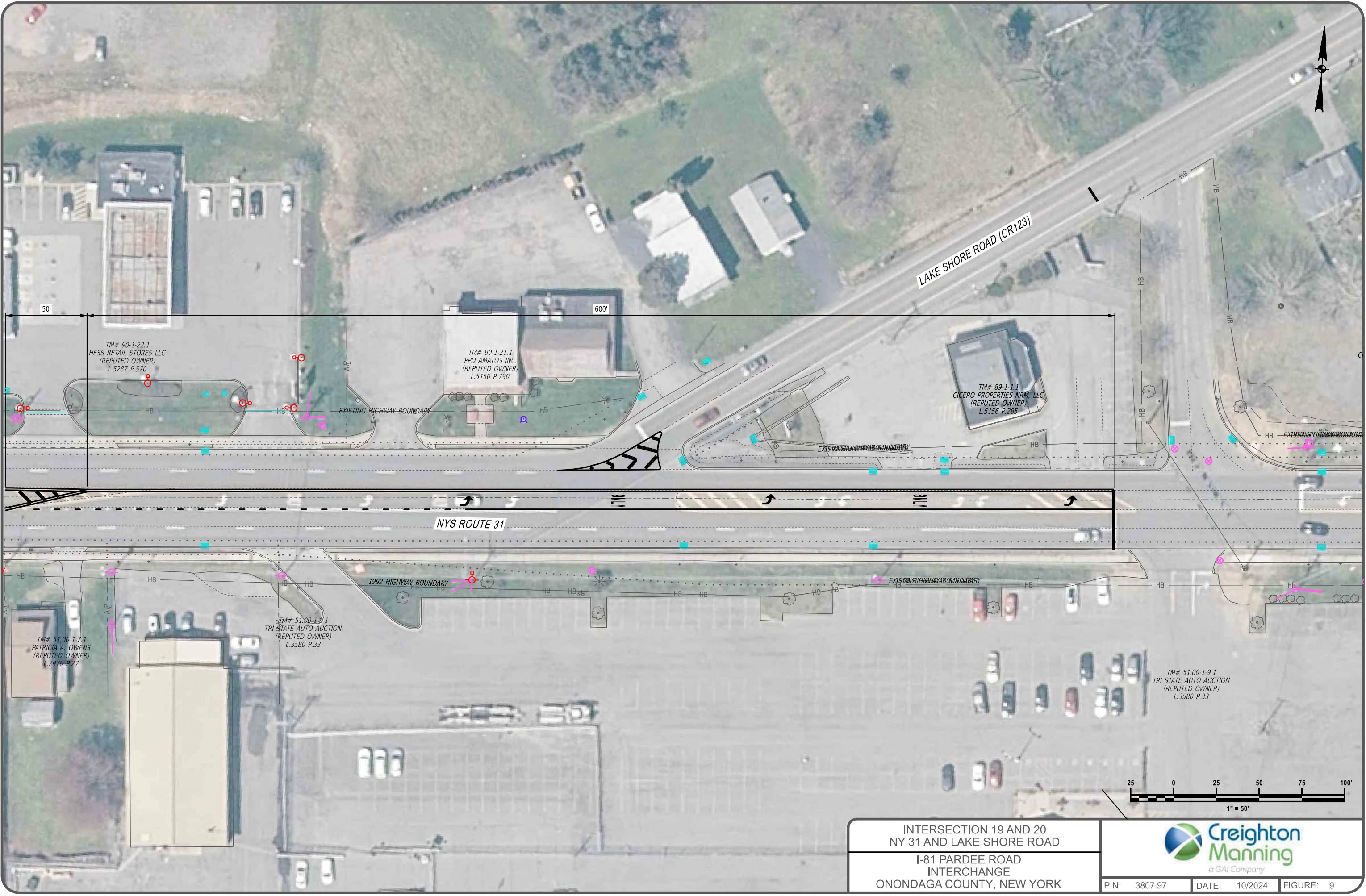
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NYS ROUTE 31 AND  
HENRY CLAY BOULEVARD  
I-81 PARDEE ROAD  
INTERCHANGE  
ONONDAGA COUNTY, NEW YORK



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INTERSECTION 19 AND 20  
NY 31 AND LAKE SHORE ROAD  
I-81 PARDEE ROAD  
INTERCHANGE  
ONONDAGA COUNTY, NEW YORK



Creighton  
Manning  
a GAI Company

|              |               |           |
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INTERSECTION 8  
NYS RTE 31 AND GRANGE ROAD (CR 197)  
I-81 PARDEE ROAD  
INTERCHANGE  
ONONDAGA COUNTY, NEW YORK

|                                                                                                        |               |            |
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| <br>a GAI Company |               |            |
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INTERSECTION 12  
NYS RTE 31 AND STEARNS RD  
I-81 PARDEE ROAD  
INTERCHANGE  
ONONDAGA COUNTY, NEW YORK

|                                                                                                        |               |            |
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| <br>a GAI Company |               |            |
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INTERSECTION 40  
CAUGHDENOV ROAD AND MAPLE ROAD  
I-81 PARDEE ROAD  
INTERCHANGE  
ONONDAGA COUNTY, NEW YORK



|              |               |            |
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| PIN: 3807.97 | DATE: 10/2024 | FIGURE: 12 |
|--------------|---------------|------------|



Onondaga County Short Term Intersection Improvements  
Priority List

Priority: 2025

|    | Interse | Location                               | Recommendation                                                                                                           | Modeller Comments                              |
|----|---------|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|
| 2  |         | NY 31 & NY 481 NB                      | Optimize timing; Lengthen NB R storage length                                                                            |                                                |
| 7  |         | NY 31 & Henry Clay Boulevard           | EBR & WBR lanes added; NBL lane extended; AM signal optimized                                                            |                                                |
| 8  |         | NY 31 & Grange Road West               | Signal added                                                                                                             |                                                |
| 11 |         | NY 31 & Caughdenoy Road                | Add left turn lanes to all approaches                                                                                    |                                                |
| 12 |         | NY 31 & Stearns Road                   | Signal added                                                                                                             |                                                |
| 17 |         | NY 31 & I-81 SB Service Road           | Close Crabtree Ln, add EB dedicated right, widen ramp to 2 lanes and taper before 81, optimize timing                    | Followed Synchro Design?                       |
| 18 |         | NY 31 & Pardee Road/I-81 NB Service Ro | Lengthen NB storage as much as possible within ROW, 1 NB left, 1 NB thru, 1 NBR, optimize timing                         | Confirm the extended length of the NB storage? |
| 19 |         | NY 31 & Lakeshore Road                 | Close Node 19 and improve 20 to include a left turn lane                                                                 | Confirm this change?                           |
| 31 |         | NY 481 SB On-Ramp & Soule Road         | what do we gain by disabling NB RTOR? Consider making SB middle lane a thru/left and adding short 2nd rec                | SB middle lane to be shared thru and left?     |
| 34 |         | US 11 & Bear Road                      | SB lanes reconfigured to 2 SBL, 1 SBT, 1 SBR; SBL permitted phase removed                                                |                                                |
| 35 |         | Bear Road & I-481 EB Ramps             | EBL turn bay extended; EB lanes reconfigured to 2 EBL, 1 EBT (with 2 EBL lanes); PM signal optimized                     | Confirm the layout for the NB RT movement      |
| 40 |         | Caughdenoy Road & Maple Road & NY 41   | temp signal with wooden poles since DOT EIS will modify again                                                            |                                                |
| 42 |         | NY 31 & Crabtree Lane                  | Close Crabtree Ln, add EB dedicated right, widen ramp to 2 lanes and taper before 81, optimize timing - same as INT # 17 |                                                |

Confirm US11 & Crabtree Ln design?

56696

56697



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| 453030077 | 90099 |
| 453030078 | 90100 |
| 453030079 | 90101 |
| 453030081 | 90102 |
| 453030083 | 90103 |
| 453030084 | 90104 |
| 453030085 | 90105 |
| 453030086 | 90106 |
| 453030088 | 90107 |
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| 453030099 | 90115 |
| 453030100 | 90116 |
| 453030101 | 90117 |
| 453030102 | 90118 |
| 453030103 | 90119 |
| 453030104 | 90120 |
| 453030105 | 90121 |
| 453030106 | 90122 |
| 453030107 | 90123 |
| 553127575 | 90124 |
| 553127576 | 90125 |
| 553138564 | 90126 |









# SMTC TRAVEL MODEL DOCUMENTATION

VERSION 5.0  
5.6.2022



PREPARED FOR:  
SYRACUSE METROPOLITAN PLANNING COUNCIL

SUBMITTED BY:  
RSG

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# SMTC Travel Demand Model

## Version 5.0 Documentation

*Prepared for:*

**Syracuse Metropolitan Transportation Council**

126 North Salina Street  
100 Clinton Square, Suite 100  
Syracuse, New York 13202

*Prepared by:*

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*This document was prepared with financial assistance from the Federal Highway Administration and the Federal Transit Administration of the U.S. Department of Transportation through the New York State Department of Transportation. The Syracuse Metropolitan Transportation Council is solely responsible for its contents.*

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## SMTC TRAVEL MODEL DOCUMENTATION

PREPARED FOR:  
SYRACUSE METROPOLITAN PLANNING COUNCIL

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## 1.0 INTRODUCTION

---

The Syracuse Metropolitan Transportation Council (SMTC) is the designated Metropolitan Planning Organization (MPO) for the greater Syracuse Metropolitan Region, which includes the City of Syracuse, Onondaga County, and small portions of Madison and Oswego Counties. SMTC is responsible for the development of the region's Long Range Transportation Plan (LRTP), Transportation Improvement Program (TIP) and Unified Planning Work Program (UPWP). These three items serve as the basis for transportation planning and programming in the region. This also involves conducting transportation planning and needs assessment studies as well as ensuring the LRTP and TIP conform to Air Quality Standards.

To assist with the conduct of these responsibilities SMTC maintains a Travel Demand Model ("the model"). The model was originally run in the Tmodel2 software package, which was installed and calibrated for the Syracuse region in the early 1990's. In 2004 SMTC retained the transportation consulting firm of Edwards and Kelcey to update the region's travel demand forecasting capabilities and build a new model using the TransCAD modeling platform. The completed model was installed onto the SMTC computers in 2005.

In 2009, SMTC retained RSG under the I-81 Travel Demand Modeling contract to review and update the model for use in the I-81 Alternatives Analysis project and to support the SMTC's other planning needs. In 2014, the model was further refined and updated to cover the region's expanded Metropolitan Planning Area (MPA). In 2019, RSG updated the model code to run in TransCAD version 7 and recalibrated the model to 2017 conditions.

The purpose of this SMTC Travel Demand Model Documentation is to:

- Describe in detail the latest model's structure, input data, and parameter estimation,
- Present model validation results that demonstrate that the model is suitable for use as the SMTC's travel demand modeling tool, and
- Describe how the model meets the minimum requirements of and responds to the suggested good practices of federal and state guidelines.



## 2.0 MODEL OVERVIEW

The STMC Travel Demand Model, Version 5.0 (“the model”) is an integrated transportation demand model developed by Resource Systems Group (RSG) for the Syracuse Metropolitan Transportation Council.

The model estimates the movement of people and vehicles within the region during an average fall weekday in 2017. The 2017 Model is a daily model with hourly traffic assignments. The 2017 model is based on updated housing and employment estimates from 2017, and includes a revised network. The model has also been transferred from TransCAD 5.0 to TransCAD 7.0. The model includes 1,125 internal Transportation Analysis Zones (TAZs) covering the City of Syracuse, Onondaga County, and several towns in Madison and Oswego Counties. Traffic entering and exiting the region does so through 68 external zones.

Transportation planners can use the model to perform comprehensive regional transportation analyses, and to evaluate traffic impacts resulting from:

- multi-modal transportation improvements,
- changes in traveler behavior,
- changes to the roadway system,
- changes in land use activity, and
- implementation of demand management strategies.

The purpose of this report is to describe:

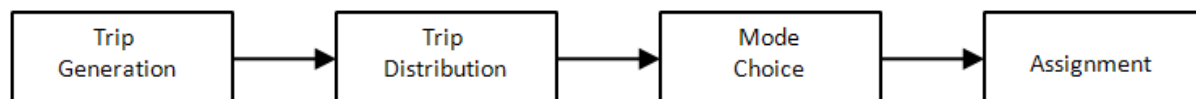
- the data sources and parameter estimation that are the foundation of the model,
- the structure of the model itself,
- the use of the model for forecasting purposes, and
- the history of enhancements and changes made to the model.

### 2.1 | CONCEPTUAL OVERVIEW OF MODEL STRUCTURE

The SMTC model is based on a four-step modeling process: trip generation, trip distribution, mode choice, and vehicle assignment. An overview of the model system is shown in Figure 1.

At the start of a full model run, trip generation uses land-use data to calculate person trip ends at the transportation analysis zone (TAZ) level. These person trip ends are then paired into origins and destinations in the distribution model. In the next step, the person trips are split into each respective mode (e.g. auto, bus). Finally, the vehicle trips are assigned to the highway network in the assignment model.

**FIGURE 1: 4-STEP MODEL CONCEPT**

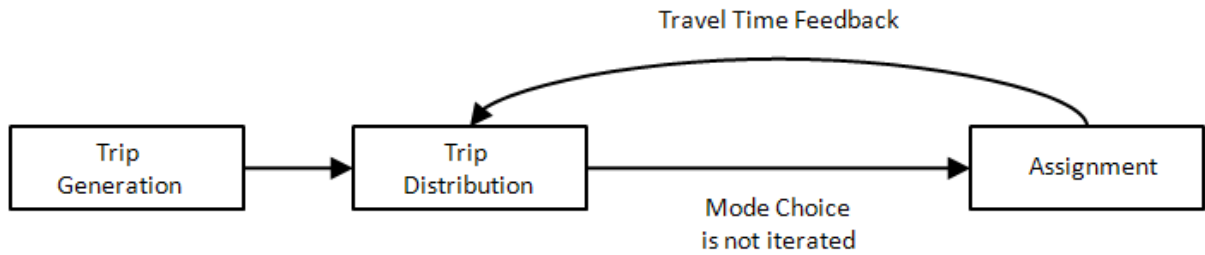


The model has an important feedback loop that has been added in Figure 2. Accessibility, which is a measure of the relative ease of travel, is calculated based on outputs from the



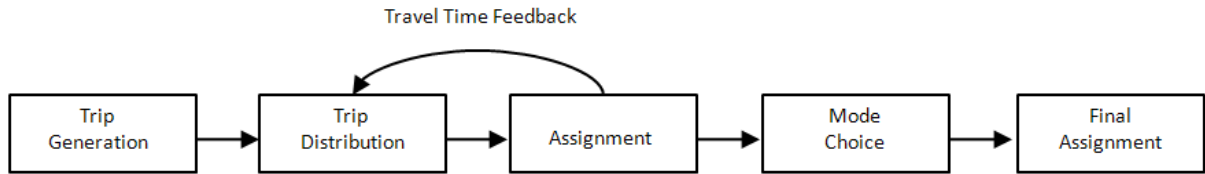
assignment model, which is also an important determinant of trip distribution. Simply put, the decisions individuals make about where and how far to travel are a function of congestion levels and travel times. Therefore, it is customary to iterate between the trip distribution and assignment models in order to reach a convergent solution. The iteration loop in Figure 2 occurs within a given simulation year.

**FIGURE 2: 4-STEP MODEL CONCEPT WITH FEEDBACK**



While transit travel is critical for many people in the SMTC region, the reality is transit carries a relatively small portion of the overall travel market in the region at this time. Since transit demand in the SMTC region does not measurably impact roadway level-of-service, a decision was made to not include the mode choice model in the feedback loop to reduce model run time and complexity. However, the mode choice model is still part of the overall model, and the SMTC model operates as presented in Figure 3. This model application decision does not limit the ability of the modeling system to adequately represent non-auto modes, and does not bias the model results, but it does significantly reduce model run time since the mode choice component takes the longest to run due to the nature of the complex path-building that is required.

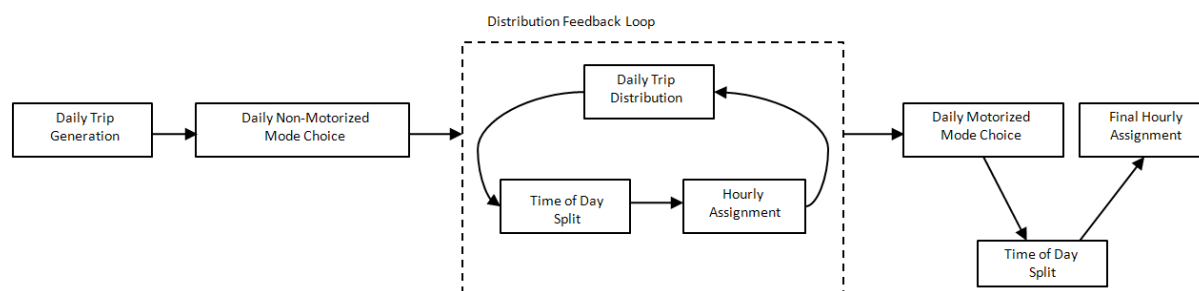
**FIGURE 3: FEEDBACK IN THE SMTC MODEL STRUCTURE**



The model is calibrated to reflect traffic conditions on an average weekday in Fall 2017. Fall was chosen because it is a time during which public schools and colleges are in session, while seasonal (summer) traffic is still observed.

The model is a daily model that performs hourly traffic assignments so as to account for both travel across an entire day and to adequately depict peak hour congestion. To accomplish this, the model relies on static time of day factors that divide the daily trips by hour for the purposes of assignment. This process is illustrated in Figure 4.



**FIGURE 4: COMPLETE SMTC MODEL STRUCTURE**

## 2.2 | BRIEF DESCRIPTION OF MODEL COMPONENTS

While the model is a traditional 4-step model, the modeling process itself consists of several steps worth noting. Each of the steps below will be discussed in-depth later in the document.

**Daily trip generation**, which calculates the number of person trip ends generated by and attracted to each zone.

**Daily trip distribution**, which pairs the trip-ends for each zone for each of six trip purposes. The result of this is a person trip table for each trip type. One output of trip distribution is the person trip table for home to work that can be compared to the “Journey-to-Work” data provided by the Census Bureau.

**Time of day (diurnal) distribution**, which takes the daily production-attraction trip matrices and converts them to origin-destination matrices by time period (e.g. AM peak hour). Trips by time of day were initially estimated using the 2004 SMTC Household Travel Survey and the NHTS in the previous version of this model.

**Vehicle assignment**, the most widely used model, which locates the best routes between each origin/destination pair and assigns the vehicle trips accordingly. An important output of this step is the number of vehicles on each roadway segment. Several other pieces of data can be extracted, including operating speeds, travel times, VMT, VHT, and V/C. In addition, one can configure the vehicle assignment to save all the vehicle trips that use a single link in either direction (select link analysis) or all the vehicle trips that originate or are destined for a zone (select zone analysis).

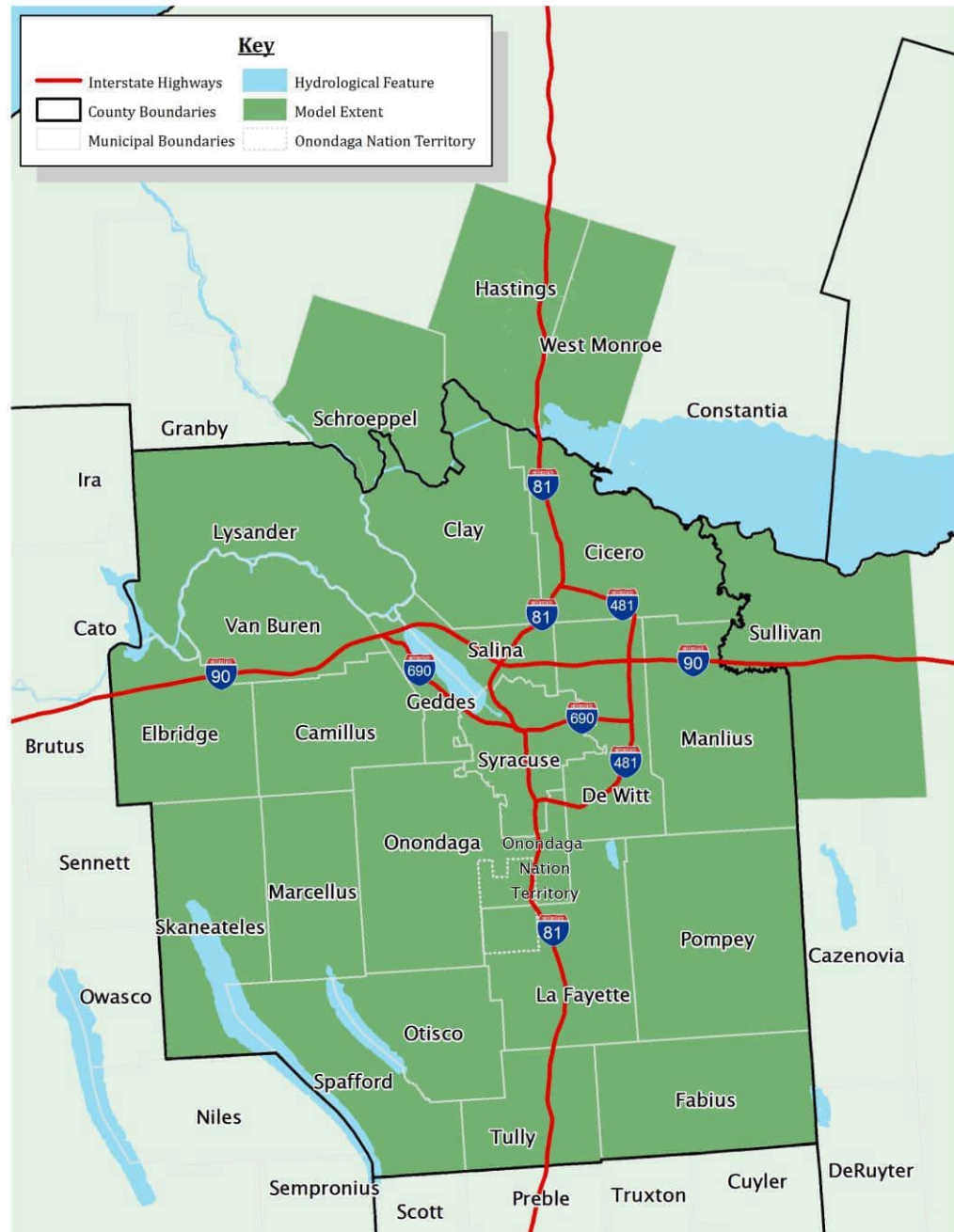
**Highway/transit skim builder** finds the best available travel path via each of the travel modes explicitly modeled and describes the attributes of the best paths for each mode (i.e. travel time, cost, distance, etc.). Several modes are explicitly modeled in the SMTC model, including auto, transit, and non-motorized modes. Skims are reasonable approximations of the travel time and cost between all pairs of TAZs, and skims are described for each travel mode. The path-finding algorithms are calibrated based on observed travel paths and observed relationships between volumes and congested speeds.

**Mode choice model** calculates which mode the person trips are likely to take based on availability and mode-specific parameters (e.g. time, cost, transit frequency). Mode choice provides a breakdown of person trips by mode. The mode choice model is



developed based on observed data on mode preferences and what those preferences imply about sensitivities to mode attributes.

FIGURE 5: SMTc MODEL REGION





## 3.0 ZONE SYSTEM AND DATA

### 3.1 | TAZ SYSTEM

The SMTC model is a zone-based forecasting tool, modeling traffic flows between TAZs. The model includes a total of 1,193 TAZs. Table 1 shows a breakdown of the TAZ structure: 1,125 cover the 41 municipalities and the Onondaga Nation in the SMTC region, while traffic entering and exiting the region does so through 68 external zones. Of the internal TAZs, most are in Onondaga County, which accounts for the majority of the SMTC region. The quantity of households and employment in each of these zones is used to develop estimates of the trips produced by and attracted to them. Sixteen TAZs are special generators, which are specific locations such as Syracuse Airport, Hospitals and large educational institutions that are modeled differently than zones containing more typical residential and commercial land. External TAZs are used to generate traffic at the cordon of the SMTC region. The 68 external TAZs are located where major roadways cross the SMTC region boundary. Traffic counts recorded at these points are used as input data to modeling trip generation at these locations, which is discussed in Section 6.0.

**TABLE 1: TAZ SUMMARY**

|                       | DESCRIPTION             | NUMBER OF ZONES |
|-----------------------|-------------------------|-----------------|
| Within                | Onondaga County*        | 920             |
| SMTC                  | Outside Onondaga County | 189             |
| MPA                   | Special Generators      | 16              |
|                       | <b>Total in MPA</b>     | <b>1,125</b>    |
| External Stations     |                         | 68              |
| <b>Total in Model</b> |                         | <b>1,193</b>    |

\*Excluding special generator TAZs

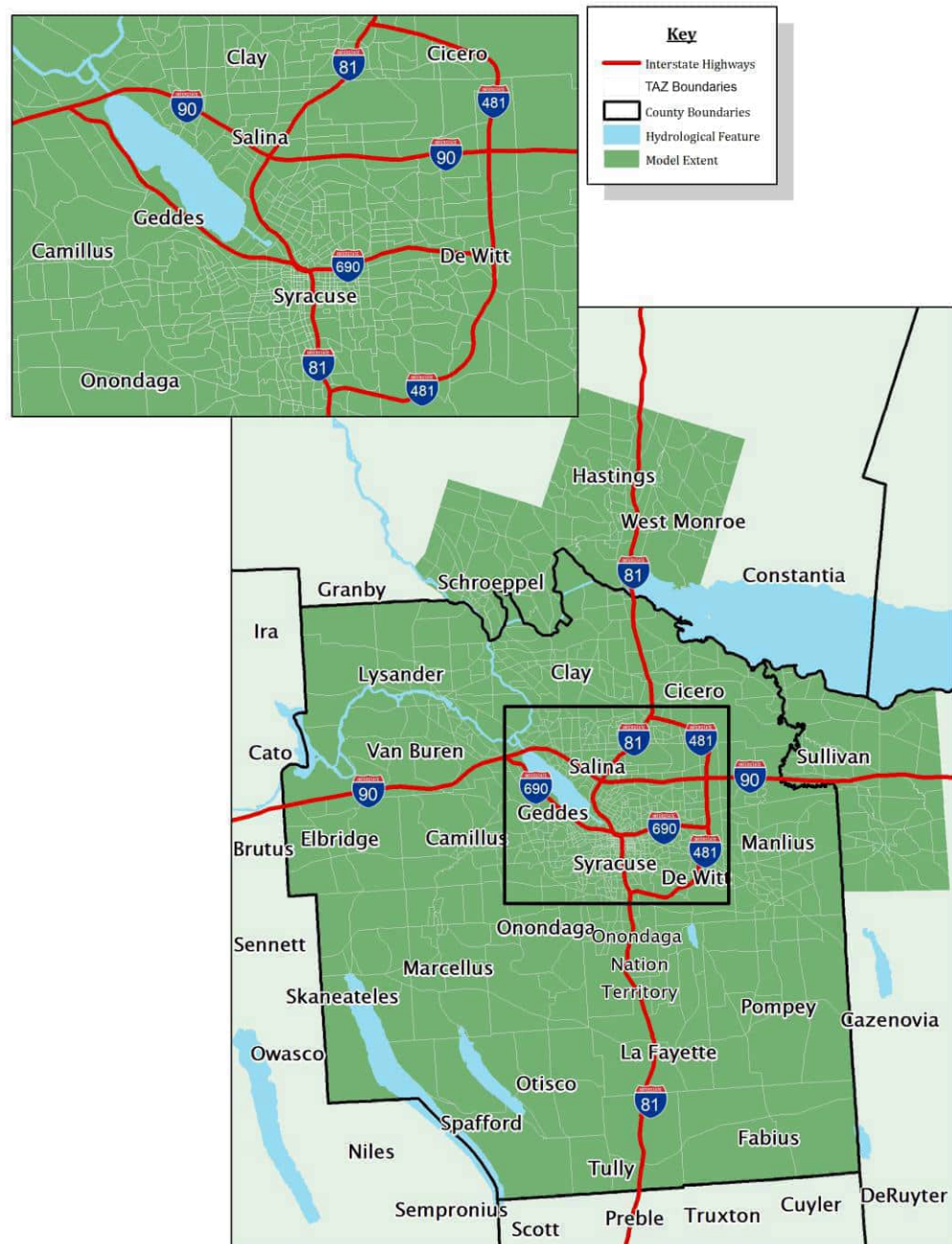
The previous version of the model included 1,185 TAZs, of which 1,117 were internal and 68 external. The model update included splitting a few zones within Onondaga County to provide higher detail at these locations. Figure 6 shows the TAZ structure for the SMTC region.

In the updated SMTC model, the socioeconomic, trip production and trip attraction attributes are maintained outside of the TAZ geographic file. Now only geographic data is maintained in the TAZ file, and socioeconomic, trip production and trip attraction attributes are maintained in support files within the Inputs\3\_TAZ and TripGen folder. These include the 'LandUse.bin' file, which contains all household and employment data.

Attributes associated with TAZs are listed in Table 2. The development of these data are discussed in Section 3.2 |.



FIGURE 6: SMTC REGION TAZ STRUCTURE





**TABLE 2: TAZ ATTRIBUTES**

| Field             | Description                  | Update Type     |
|-------------------|------------------------------|-----------------|
| ID                | TAZ identification number    | Immutable       |
| Area              | TAZ Area (square miles)      | User-maintained |
| TAZ               | TAZ identification number    | User-maintained |
| Zone_Type         | Zone type                    | User-maintained |
| Town_City         | Town/City name               | User-maintained |
| Town/Ext.Station  | Town/external                | User-maintained |
| Outside_Onondaga  | Onondaga Indicator           | User-maintained |
| TerminalTime      | Terminal Time (minutes)      | User-maintained |
| Downtown District | District Indicator           | User-maintained |
| IntDens           | Sqrt of Intersection Density | User-Maintained |
| Walkable          | Indication of walkability    | User-Maintained |
| Description       | Description                  | User-maintained |

### 3.2 | SOCIOECONOMIC DATA

Socioeconomic (SE) data are essentially the number of households and jobs located in each of the model's TAZs. The number of households and jobs are the key explanatory variables of the number of trips produced and attracted to each TAZ. Therefore, if the model is to reflect travel in the region it is important to correctly locate and quantify households and jobs. Furthermore, the change in land use – growth or decline in the number of household and jobs – is the key driver of changes in the amount of regional travel between the base and future forecast years.

A multistep process was undertaken to develop the base and future year data:

- Conversion of the model's forecast years: the base year was moved forward from 2014 to 2017, and the future year was maintained as 2050.

- The addition of more detail to the TAZ system required the disaggregation of employment and households reflect where TAZs were split.

- Version 5.0 SE data was developed based on current socio-economic and census data sources, including data from the NY State Department of Labor, in combination with SMTC local knowledge and maintaining local adjustments established with local partners during previous outreach in generating Version 4.0 2014 SE data inputs.

- Updated 2050 projections were then obtained by reviewing previous 2014 and 2050 SE data, along with the newly updated 2017 SE data and strategically updating the previous 2050 SE data to reflect changes from 2014 to 2050. Logic was applied to maintain previous 2050 values for a given TAZ when the 2017 values reflect a natural progression along the previously defined growth trajectory – i.e. where 2017



values fall between the 2014 and 2050 values and reflect incremental change due to time passing from 2014 to 2017. However, in some cases, 2017 SE data was updated to reflect corrections to 2014 SE allocations (often the number and/or type of employees in a given zone). In such cases, logic was used to translate these corrections to the 2050 values. In all cases, town-wide control totals were applied after redistribution, with exceptions for any cases if 2017 values exceeded 2050 totals for a given town.

As mentioned previously, the Socioeconomic data is maintained outside of the TAZ system in the 'LandUse.bin' file. The attributes associated with the Socioeconomic data are listed in Table 3.

The remainder of this section describes each step in the process of developing the socioeconomic data in more detail and presents regional summaries of the socioeconomic data.



**TABLE 3: SOCIOECONOMIC DATA ATTRIBUTES**

| Field              | Description                                | Update Type     |
|--------------------|--------------------------------------------|-----------------|
| TAZ                | TAZ identification number                  | Immutable       |
| Town               | Town/City name                             | User-maintained |
| CBD                | Central Business District                  | User-maintained |
| HH_IncludingGQ     | Households including Group Quarters        | User-maintained |
| HH                 | Households                                 | User-maintained |
| HH_GQ              | Group Quarters                             | User-maintained |
| Population         | Population (persons)                       | User-maintained |
| Vehicles           | Vehicles                                   | User-maintained |
| Agriculture        | Agricultural sector employees              | User-maintained |
| Bus_Legal_Personal | Business, Legal, Personal sector employees | User-maintained |
| Communications     | Communication sector employees             | User-maintained |
| Construction       | Construction sector employees              | User-maintained |
| Eat_Drinking       | Eating, Drinking sector employees          | User-maintained |
| Education          | Education sector employees                 | User-maintained |
| FIRE               | Fire sector employees                      | User-maintained |
| Government         | Government sector employees                | User-maintained |
| Health             | Health sector employees                    | User-maintained |
| Hotels_Lodge       | Hotels, Lodging sector employees           | User-maintained |
| Manufacturing      | Manufacturing sector employees             | User-maintained |
| Mining             | Mining sector employees                    | User-maintained |
| NonClassifiable    | Nonclassifiable sector employees           | User-maintained |
| RetailTrade        | Retail sector employees                    | User-maintained |
| Service            | Service sector employees                   | User-maintained |
| SocialServices     | Social Services sector employees           | User-maintained |
| Transportation     | Transportation sector employees            | User-maintained |
| Utilities          | Utilities sector employees                 | User-maintained |
| WholesaleTrade     | Wholesale sector employees                 | User-maintained |
| Total              | Total employees                            | User-maintained |



## DATA COLLECTION

Collecting and verifying housing and employment data is a very intensive process and requires input from local experts. In developing model SE data, the SMTC met with local officials and professionals with experience in demographic analysis and/or knowledge of local demographic conditions. For this current update, SMTC staff further reviewed and updated SE data to reflect 2017 conditions.

A comprehensive socioeconomic data update outreach was completed over a several week period in the spring of 2014 and included representatives from various geographic levels. This process, which formed the initial foundation of the 2017 model data – currently updated to reflect 2017 conditions – is described below.

The SMTC met with the Empire State Development Corporation and the New York State Department of Labor to understand current conditions and trends at the state level. The central New York Regional Planning and Development Board, Syracuse-Onondaga County Planning Agency, Onondaga County Office of Economic Development, CenterState Corporation for Economic Opportunity, City of Syracuse Department of Neighborhood and Business Development, City of Syracuse Industrial Development Agency and the City of Syracuse Bureau of Planning & Sustainability provided feedback on socioeconomic data at the city, county and region level. Additionally, in 2009, the SMTC collected information from local representatives from the Towns of Camillus, Cicero, Clay, DeWitt, Lysander, Manlius, Onondaga, Salina and Van Buren. These municipalities were determined to be the most dynamic in regards to household and employment change over the 36 year modeling period.

Socioeconomic information that was previously gathered, during a similar effort in 2009, was presented to these representatives in tabular and graphic format. Each representative had the opportunity to review and comment on the previous work to update the datasets to the new base and horizon model years. Comments were collected and compiled into a single database and the appropriate changes were made to the base and horizon year datasets.

The development of data in 2009 utilized New York State Department of Transportation (NYSDOT) forecasted employment data created by Global Insight. In addition to the database compiled during meetings with local representatives, other datasets were referenced to update the model data to 2014 and 2050 for the version 4.0 model:

- 2000 U.S. Census data on households at the block level (U.S. Census Bureau)
- 2010 U.S. Census data on households at the block level (U.S. Census Bureau)
- 2012 U.S. Census American Community Survey (ACS) 3-year data on households (U.S. Census Bureau)
- 2012 parcel data for Onondaga County (Syracuse-Onondaga Planning Agency)
- 2009 Business Location Analysis Tool (BLAT) data on employment (NYSDOT)
- 2013 Infogroup data on employers with 10+ employees (NYSDOT)
- 2012 Onondaga County employment totals by sector (New York State Department of Labor)





- 2012-2013 aerial photography for household and employment location confirmation (NYSDOT)
- 2010 US Bureau of Economic Analysis (BEA) Onondaga County full-time employment by industry sector (CA25N)
- 2012 Onondaga County Industrial Development Agency (OCIDA) employment report
- 2013 Downtown Committee of Syracuse employment data

Previous Future year forecasts:

- 2020 employment projections by sector for Central New York (New York State Department of Labor)
- 2035 employment projections by sector and population projections for Onondaga County (Woods and Poole Economics, Inc.)
- 2040 population projections for Onondaga County (Cornell University Program on Applied Demographics)

## DEVELOPMENT OF BASE YEAR HOUSEHOLDS & POPULATION

Prior to updating the model base year from 2007 to 2014 the 2007 household data were reviewed for accuracy and completeness. Parcel data and aerial photography were used to validate the placement of households in the 2007 TAZ structure<sup>1</sup>. Otherwise, the updated demographic data for 2014 was prepared using the 2010 Census and 2012 parcel data. For the latest 2017 data update, previous 2014 HHs were again reviewed and updated by SMTC staff.

### 3.3 | DEVELOPMENT OF FUTURE YEAR HOUSEHOLDS & POPULATION

In the SMTC version 4 model, previous 2035 household and population data served as the basis for projecting 2050 conditions. The 2035 year household and population data were previously presented to local representatives for review and comment. The general consensus was to retain the 2035 conditions out to 2050 with a few exceptions. The local representatives identified site-specific locations of growth or decline in their geographic areas of expertise. This feedback was applied to the household data at the TAZ level and the remaining growth or decline, projected for 2050, was added and distributed using the previous model growth rates. The 2035 household totals were used as the 2050 household control totals at the municipal and county level. These control totals (approximately 208,000 total households in Onondaga County - not including group quarters) were validated with results of a trend analysis using Decennial Census data, American Community Survey 3-year data, Cornell University projections, and Woods and Poole Economics projections. The projections for the City of Syracuse were adjusted in this version of the model based on the

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<sup>1</sup> For more information on how the 2003 household and population data was derived please refer to the SMTC Travel Demand Model Data Development Report (Version 1.2) dated November 2006. This report also describes the development of 2027 household and population data and 2003 and 2027 employment data



2010 Census data showing a lower level of decline than had been expected and that has been incorporated in to the projections.

For the current SMTc version 5 model, previous 2050 projections were used as a starting point for updated 2050 projections. The current version 5 model 2050 SE data projections were obtained by reviewing previous version 4 2014 and 2050 SE data, along with the newly updated 2017 SE data and strategically updating the previous 2050 SE data to reflect changes from 2014 to 2050. Logic was applied to maintain previous 2050 values for a given TAZ when the 2017 values reflect a natural progression along the previously defined growth trajectory – i.e. where 2017 values fall between the 2014 and 2050 values and reflect incremental change due to time passing from 2014 to 2017. However, in some cases, 2017 SE data was updated to reflect corrections to 2014 SE allocations. In such cases, logic was used to translate these corrections to the 2050 values. In all cases, town-wide control totals were applied after redistribution, with exceptions for any cases if 2017 values exceeded 2050 totals for a given town.

### **3.4 | DEVELOPMENT OF BASE YEAR EMPLOYMENT**

Employment data for the 2017 base year in version 5.0 were developed by SMTc based on employment data provided by NYSDOT and comparison to historical employment data by TAZ from the version 4 model.

Historical version 3 base year employment numbers relied on BLAT data, provided by NYSDOT (geocoded locations of business which include employment sector and employee information), 2010 Census Local Employment Dynamics (LED) data, aerial photos, and 2010 county-level BEA control totals and parcel data to correct any large discrepancies.

For the previous version 4 update, local representatives were presented with employment data tables and maps to review and comment. The goal of this outreach was to review the current model conditions and to determine areas of growth and/or decline in regards to total employment and employment sector for the new model years. In some cases, local representatives were able to identify employment changes that occurred between 2007 and 2014. The remaining employment change, using the same rates as the 2007 to 2035 projections, was applied to the 2014 TAZ structure. Additionally, 2009 BLAT and 2013 Inforgroup employment data were used for verifying employer locations, employment sector and number of employees at the TAZ level. The final 2014 employment data from version 4 were controlled at the county level using 2012 New York State Department of Labor employment data and at the municipal level using 2010 LEHD data.

The employment sectors used in previous model iterations are again retained for the version 5 update of employment data. The sectors are combinations of Standard Industrial Classification (SIC) codes. The sectors and corresponding SIC codes are shown in Table 4.



**TABLE 4: EMPLOYMENT SECTORS AND SIC CODES**

| EMPLOYMENT SECTORS                  | SIC CODES                             |
|-------------------------------------|---------------------------------------|
| Agriculture                         | 0100 – 999                            |
| Mining                              | 1000 – 1499                           |
| Construction                        | 1500 – 1800                           |
| Manufacturing                       | 2000 – 4000                           |
| Transportation                      | 4100 – 4799                           |
| Communications                      | 4800 – 4899                           |
| Utilities                           | 4900 – 4999                           |
| Wholesale Trade                     | 5000 – 5199                           |
| Retail Trade                        | 5200 – 5799, 5900 – 5999              |
| Eating and Drinking Establishments  | 5800 – 5899                           |
| Financial / Insurance / Real Estate | 6000 – 6800                           |
| Hotels / Lodging                    | 7000 – 7099                           |
| Business / Legal / Personal         | 7200 – 7400, 8100 – 8200, 8700 – 8799 |
| Service (General)                   | 8400 – 8500, 8600 – 8700, 8800 – 8999 |
| Health Services                     | 8000 – 8100                           |
| Educational Services                | 8200 – 8299                           |
| Social Services                     | 8300 – 8399                           |
| Government                          | 9100 – 9800                           |
| Nonclassifiable                     | 9900+                                 |

### DEVELOPMENT OF FUTURE YEAR EMPLOYMENT

In the SMTC version 4 model, the previous horizon year (2035) employment data were developed using a combination of local knowledge and forecasted employment data created by Global Insight, provided by NYSDOT. Projecting the employment data using only the Global Insight data did not take into account all local considerations related to site-specific development plans. Therefore, during the meetings with local representatives they were asked to provide information on any economic development that had or was likely to occur between 2007 and 2035. These details were incorporated into the final projected 2035 TAZ level employment data in the version 3 model.

The effort put into projecting the 2035 employment data was utilized for the version 4 model update and also largely influences the current version 5 update. During outreach efforts in the spring of 2014 it was determined the employment numbers that were projected



for 2035 were to be used in 2050. There was an overall consensus on this assumption due to then current economic conditions that had slowed growth for several years and in some sectors created a decline. In addition, local representatives provided updated information on site-specific development plans as well as projected job gains/losses by sector. Large potential but unapproved developments (such as future portions of Destiny USA) have not been included in the future employment forecasts.

Based on information provided by the New York State Department of Labor, the projected annual growth rate for central New York is 0.04%, which equals just over 1,000 jobs per year in Onondaga County. The 34,000 jobs (approximately 1,000 jobs per year over a 36 year period) were distributed to TAZ's using previously projected rates and site-specific information collected during the outreach effort. Combining the previous efforts to develop 2035 forecasts with updated information resulted in an updated and refined 2050 employment dataset at the TAZ level.

## SUMMARY OF SOCIOECONOMIC DATA

The results of the socioeconomic data development process for the version 5 model are shown in Table 5, which summarizes household and employment data by municipality<sup>2</sup>. The table shows that the number of households in the model region is projected to grow by 6% from 220,487 in 2017 to 233,358 in 2050, and the number of jobs in the model region is projected to grow by 13% from 267,276 in 2017 to 303,125 in 2050. Figure 7 and Figure 8 show 2017 and 2050 household density by TAZ, and Figure 10 and Figure 11 show 2017 and 2050 employment density by TAZ. Figure 9 and Figure 12 show the change in household density and employment density between 2017 and 2050 respectively. There is, generally, relatively little change in households in the City of Syracuse and growth in communities outside the City. Most employment growth is expected to occur (in absolute terms) in the City of Syracuse and towns such as DeWitt, Clay, Cicero, and Lysander. The growth rates of regional households and employment are similar to those in the previous model.

## CROSS CLASSIFICATION OF HOUSEHOLD DATA

The socioeconomic data development process created base and future year household numbers by TAZ. For trip generation purposes, the households are cross classified by household size and vehicle ownership as input in the HHAndVeh\_Percent.bin file (See section 6.2 | for more details of the trip generation model). The base year cross classification was controlled using 2010 Census block group data. Each TAZ was joined to one of the 418 block groups composing the SMTC region and assigned with the corresponding block group's joint distribution of household size (1,2,3,4+ person households) and number of vehicles (0, 1, 2, and 3+ vehicles) as documented in the 2006-

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<sup>2</sup> TAZ geography does not overlay exactly municipal geography; therefore, data for certain municipalities may vary.



2010 ACS data. Bucket rounding was applied across joint distributions and across TAZs to round to whole households.

The modeled population of Onondaga County derived from the cross classified households was confirmed to match closely to the 2013 population of 468,400 at an average of 2.42 people per household (based on 2013 ACS population estimates). The household size distribution was skewed lower in each TAZ so that this region-wide population control was matched.

**TABLE 5: HOUSEHOLDS AND EMPLOYMENT BY MUNICIPALITY IN 2017 AND 2050**

| Town/City      | Households Including Group Quarters |         |        |          | Employment |         |        |          |
|----------------|-------------------------------------|---------|--------|----------|------------|---------|--------|----------|
|                | 2017                                | 2050    | Change | % Change | 2017       | 2050    | Change | % Change |
| Baldwinsville  | 2,608                               | 2,765   | 157    | 6%       | 2,114      | 2,219   | 105    | 5%       |
| Camillus       | 10,230                              | 11,017  | 787    | 8%       | 7,975      | 8,850   | 875    | 11%      |
| Central Square | 1,036                               | 1,148   | 112    | 11%      | 1,231      | 1,443   | 212    | 17%      |
| Chittenango    | 1,622                               | 1,730   | 108    | 7%       | 1,360      | 1,601   | 241    | 18%      |
| Cicero         | 11,655                              | 12,713  | 1,058  | 9%       | 12,079     | 13,400  | 1,321  | 11%      |
| Clay           | 21,857                              | 24,012  | 2,155  | 10%      | 20,817     | 28,169  | 7,352  | 35%      |
| Dewitt         | 10,371                              | 10,675  | 304    | 3%       | 41,148     | 45,401  | 4,253  | 10%      |
| East Syracuse  | 1,366                               | 1,364   | -2     | 0%       | 3,037      | 3,254   | 217    | 7%       |
| Elbridge       | 2,360                               | 2,497   | 137    | 6%       | 2,466      | 3,391   | 925    | 38%      |
| Fabius         | 728                                 | 778     | 50     | 7%       | 605        | 619     | 14     | 2%       |
| Fayetteville   | 922                                 | 926     | 4      | 0%       | 534        | 692     | 158    | 30%      |
| Geddes         | 4,457                               | 4,494   | 37     | 1%       | 5,066      | 5,520   | 454    | 9%       |
| Granby         | 44                                  | 47      | 3      | 7%       | 9          | 10      | 1      | 11%      |
| Hastings       | 2,865                               | 3,105   | 240    | 8%       | 1,277      | 1,356   | 79     | 6%       |
| Lafayette      | 2,306                               | 2,546   | 240    | 10%      | 1,204      | 1,257   | 53     | 4%       |
| Liverpool      | 1,052                               | 1,052   | 0      | 0%       | 1,482      | 1,585   | 103    | 7%       |
| Lysander       | 7,781                               | 9,250   | 1,469  | 19%      | 4,883      | 6,889   | 2,006  | 41%      |
| Manlius        | 12,149                              | 13,061  | 912    | 8%       | 9,778      | 10,263  | 485    | 5%       |
| Marcellus      | 2,479                               | 2,835   | 356    | 14%      | 1,651      | 1,797   | 146    | 9%       |
| Minoa          | 660                                 | 660     | 0      | 0%       | 218        | 258     | 40     | 18%      |
| North Syracuse | 3,131                               | 3,167   | 36     | 1%       | 2,879      | 3,056   | 177    | 6%       |
| Onondaga       | 9,263                               | 10,527  | 1,264  | 14%      | 7,586      | 8,283   | 697    | 9%       |
| Otisco         | 978                                 | 1,013   | 35     | 4%       | 290        | 311     | 21     | 7%       |
| Phoenix        | 1,020                               | 1,098   | 78     | 8%       | 922        | 970     | 48     | 5%       |
| Pompey         | 2,557                               | 2,832   | 275    | 11%      | 446        | 512     | 66     | 15%      |
| Salina         | 14,127                              | 14,279  | 152    | 1%       | 18,707     | 20,069  | 1,362  | 7%       |
| Schroepfel     | 2,337                               | 2,472   | 135    | 6%       | 800        | 853     | 53     | 7%       |
| Skaneateles    | 3,019                               | 3,128   | 109    | 4%       | 4,646      | 5,061   | 415    | 9%       |
| Solvay         | 3,033                               | 2,978   | -55    | -2%      | 2,739      | 2,876   | 137    | 5%       |
| Spafford       | 724                                 | 738     | 14     | 2%       | 172        | 183     | 11     | 6%       |
| Sullivan       | 4,631                               | 4,987   | 356    | 8%       | 2,227      | 2,567   | 340    | 15%      |
| Syracuse       | 69,978                              | 71,642  | 1,664  | 2%       | 102,078    | 114,971 | 12,893 | 13%      |
| Tully          | 1,083                               | 1,173   | 90     | 8%       | 1,063      | 1,158   | 95     | 9%       |
| Van Buren      | 4,630                               | 5,133   | 503    | 11%      | 3,364      | 3,819   | 455    | 14%      |
| West Monroe    | 1,428                               | 1,516   | 88     | 6%       | 423        | 462     | 39     | 9%       |
| Total          | 220,487                             | 233,358 | 12,871 | 6%       | 267,276    | 303,125 | 35,849 | 13%      |



FIGURE 7: HOUSEHOLD DENSITY IN 2017

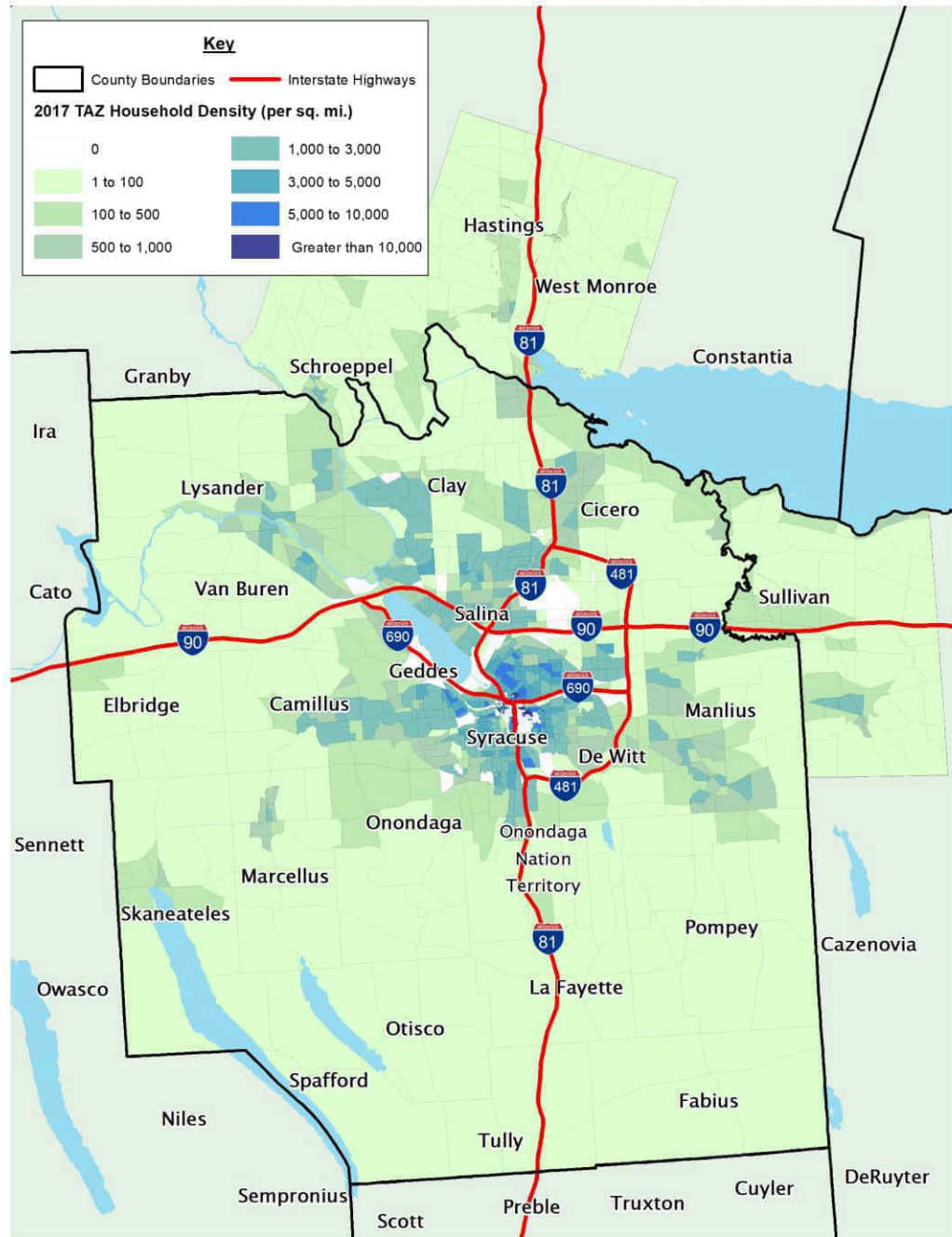




FIGURE 8: HOUSEHOLD DENSITY IN 2050

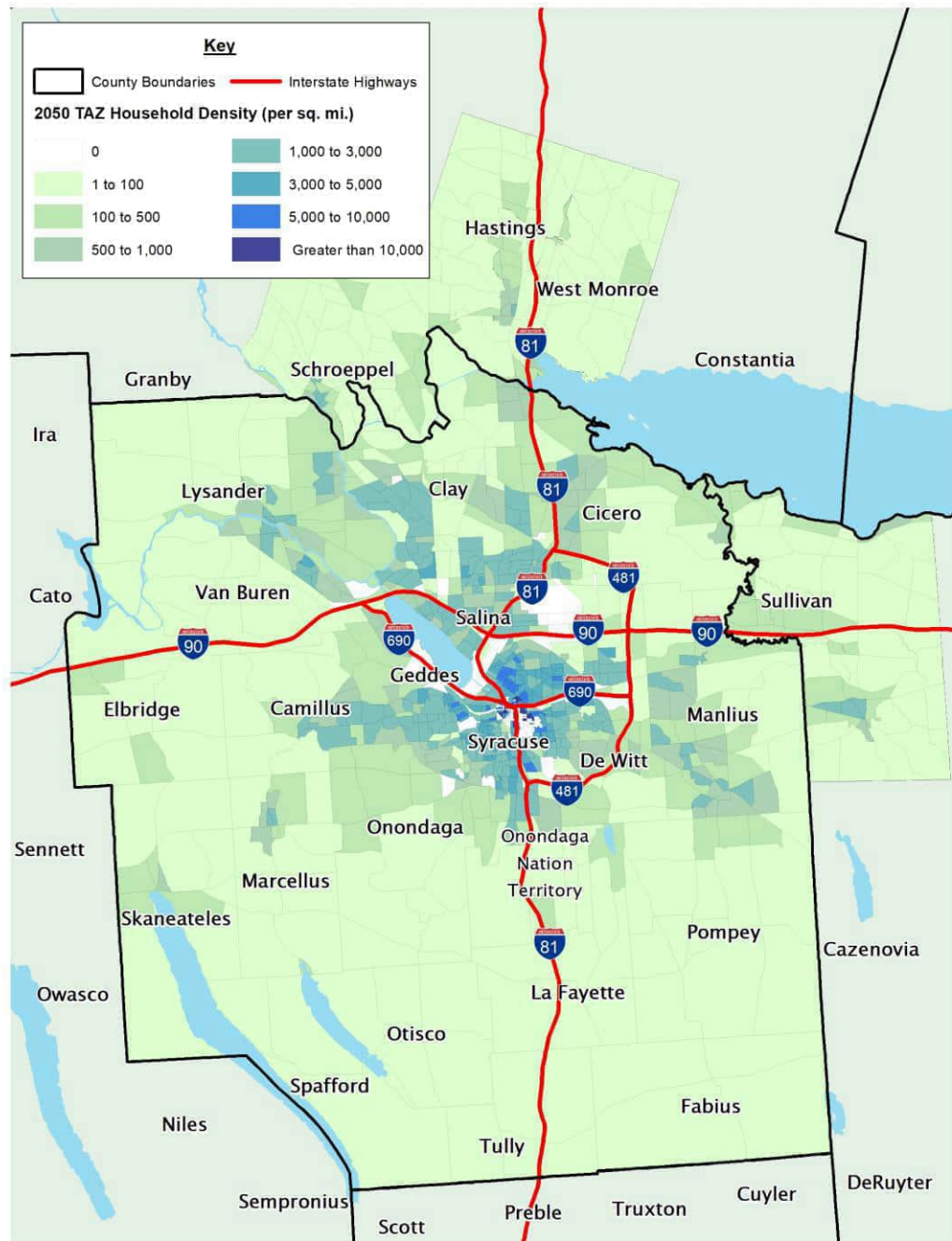




FIGURE 9: CHANGE IN HOUSEHOLD DENSITY BETWEEN 2017 AND 2050

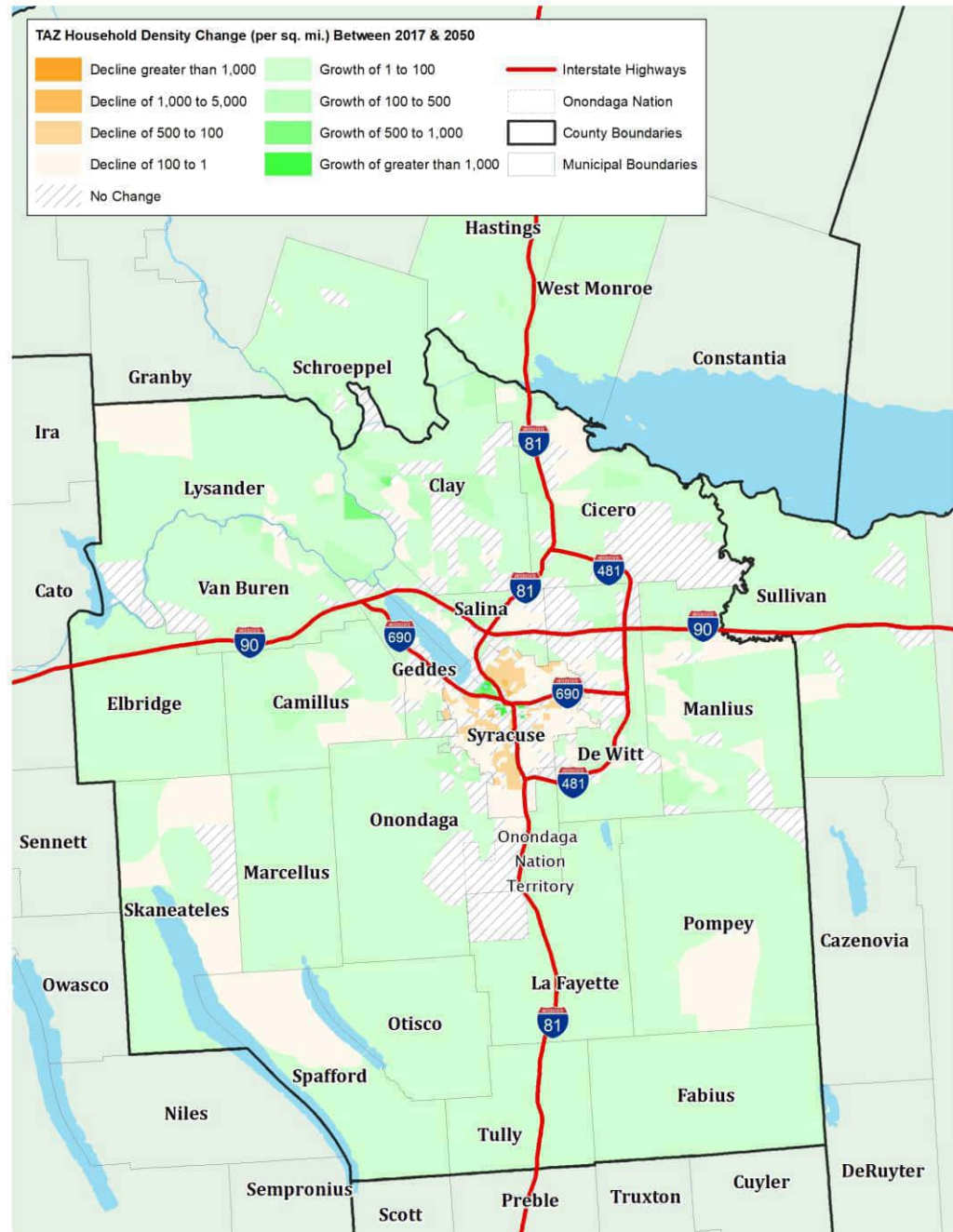




FIGURE 10: EMPLOYMENT DENSITY IN 2017

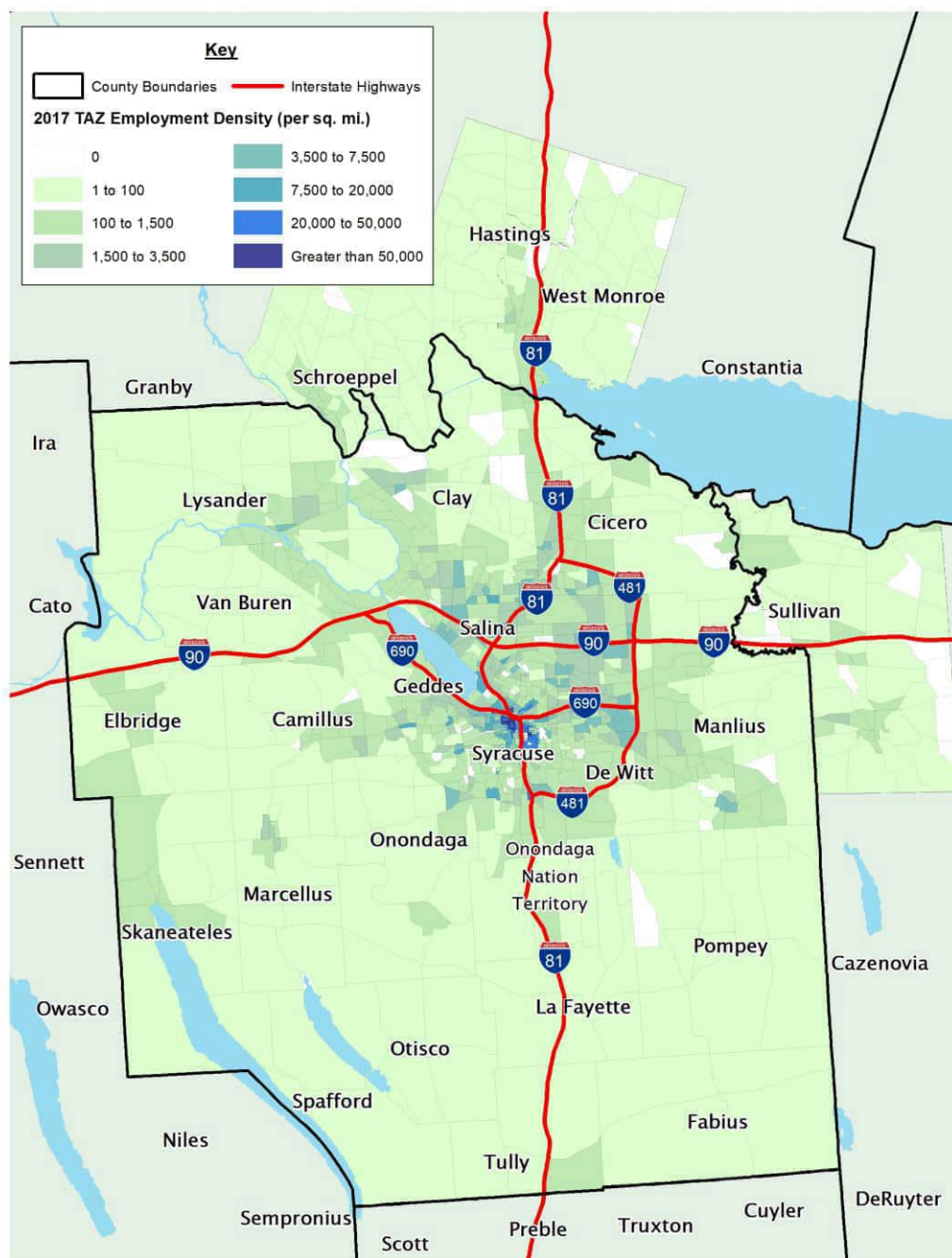
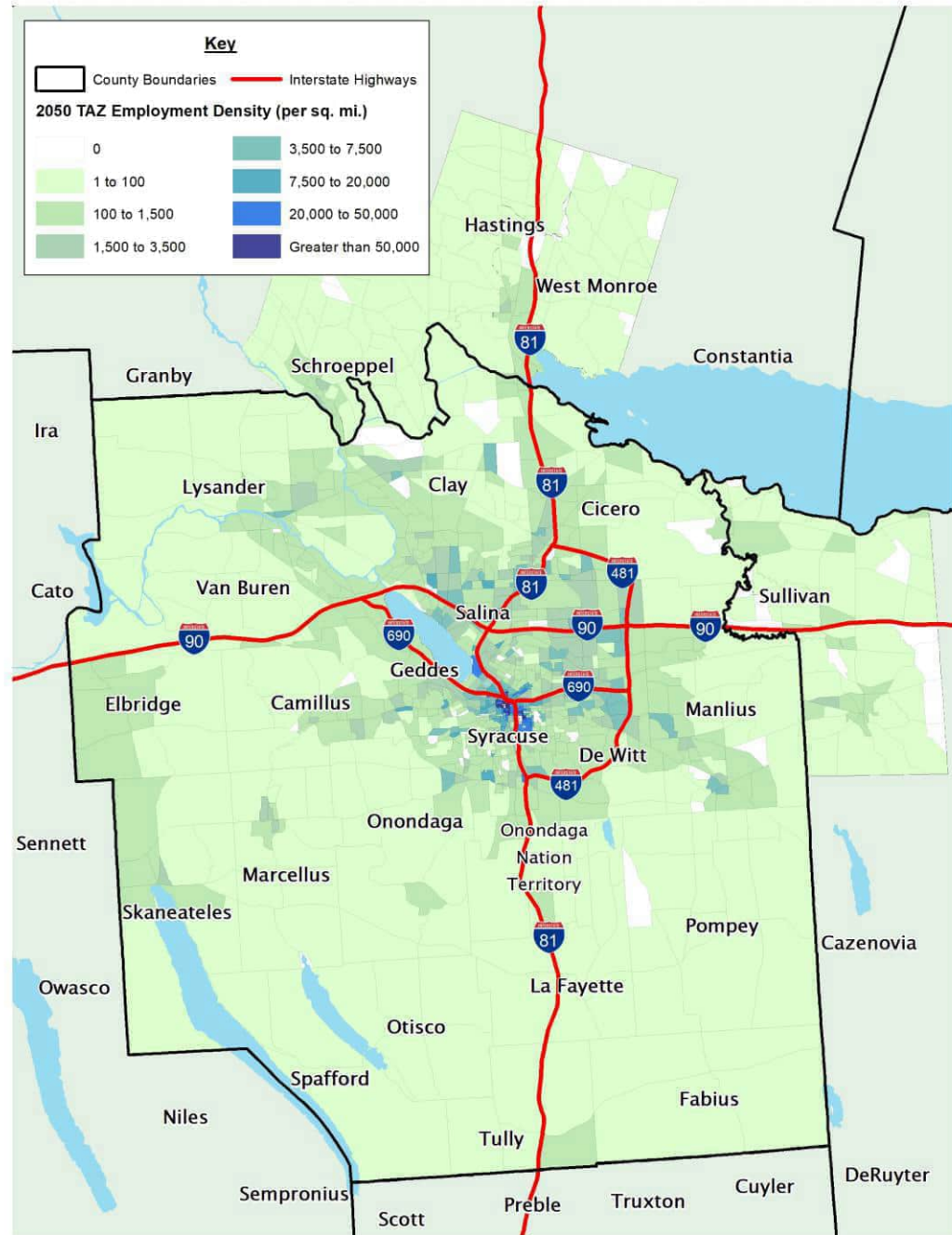
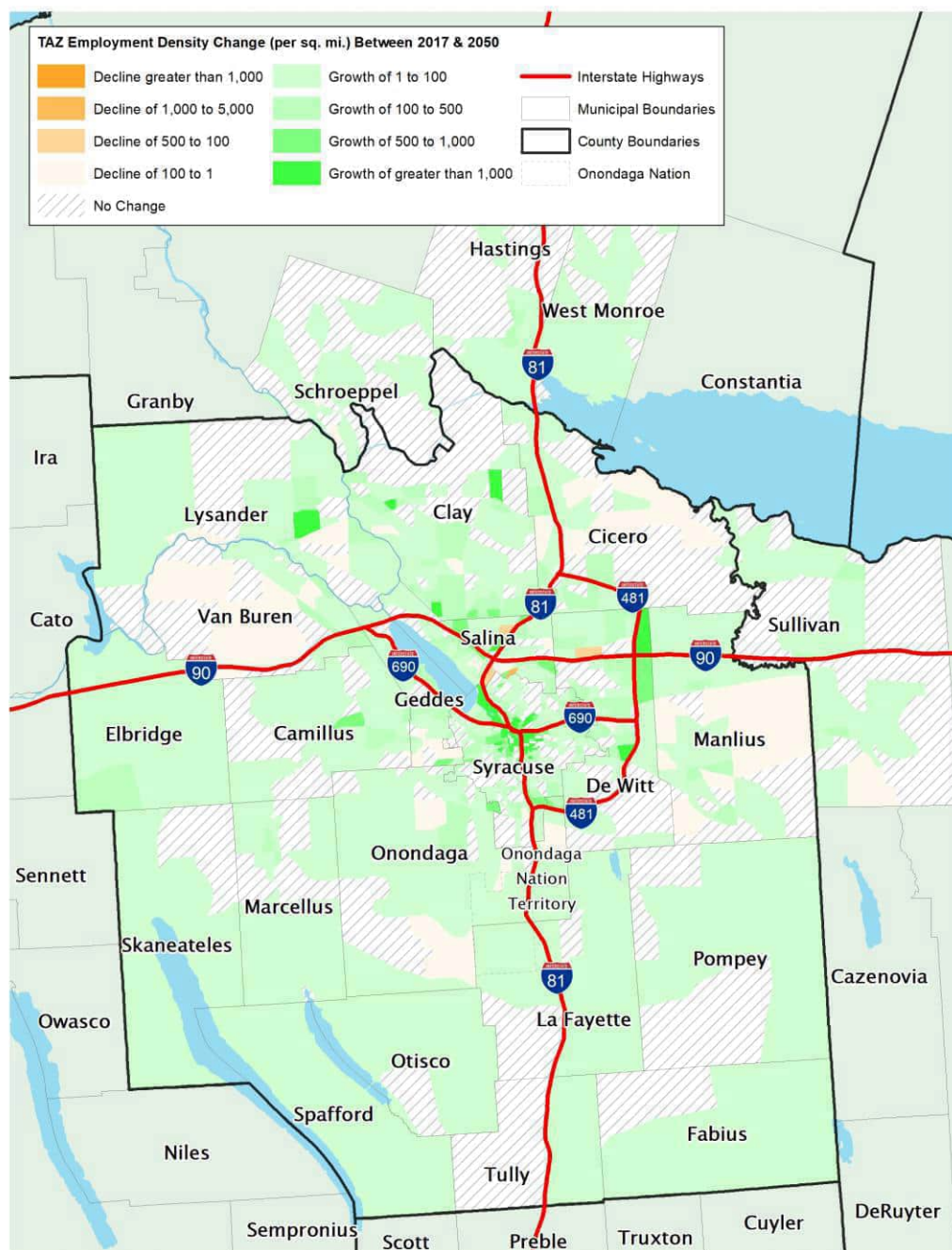




FIGURE 11: EMPLOYMENT DENSITY IN 2050





**FIGURE 12: CHANGE IN EMPLOYMENT DENSITY BETWEEN 2017 AND 2050**



## 4.0 MODEL HIGHWAY NETWORK

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For modeling purposes, a set of roadways within the modeling region was selected to reliably represent the entire highway network. In application, there are over 11,500 road segments represented as network links, of which approximately 1,418 are one-way only. The model includes a limited number of local roads – most local roads are represented and accounted for in the model by centroid connectors that link TAZ centroids to the rest of the model’s highway network. There are 8,649 endpoints (known as “nodes”) in the model, which include intersections and TAZs. Figure 13 shows the highway network in the SMTC region. As part of this model update, SMTC refined the highway network. A combination of field verification and review of aerial images were used to verify network attributes such as number of lanes, posted speeds, turn penalties, intersection types, and centroid connector placement.

### 4.1 | NETWORK ATTRIBUTES

In the SMTC model, some of the link and node attributes are maintained in the roadway geographic file while other attributes are maintained in lookup tables. The attributes associated with the links and nodes include:

- Functional classification
- Link direction, number of lanes, length, and tolls
- Link and node hourly capacities
- Free flow and congested speeds and travel times
- Turn prohibitions and turn penalties
- Area type, i.e. Syracuse, Urban, Other Census Designated Place, or Rural

Table 6 and Table 7 list the node attributes and the highway link attributes, respectively.





TABLE 6: HIGHWAY NODE ATTRIBUTES

| Field        | Description                        | Update Type     |
|--------------|------------------------------------|-----------------|
| ID           | Node identification code           | Immutable       |
| Longitude    | Longitude of node                  | Immutable       |
| Latitude     | Latitude of node                   | Immutable       |
| Elevation    | Elevation of node                  | Immutable       |
| ID:1         | Secondary Node ID code             | User-maintained |
| Centroid     | Highway Centroid                   | User-maintained |
| Transit_CE   | Transit Centroid                   | User-maintained |
| TAZ          | TAZ number                         | User-maintained |
| Model_Node   | Model Node                         | User-maintained |
| Transit_Node | Transit Node                       | User-maintained |
| Node_Type    | Node type                          | User-maintained |
| HCAP         | Intersection capacity (vph)        | Lookup Table    |
| Daily_Vol    | Daily model volume (vehicles)      | Computed        |
| AM_Vol       | AM hour model volume (vehicles)    | Computed        |
| PM_Vol       | PM hour model volume (vehicles)    | Computed        |
| AM_VoC       | AM hour volume-capacity ratio      | Computed        |
| PM_VoC       | PM hour volume-capacity ratio      | Computed        |
| TurnPen      | Indication of Turn Penalty at node | User Maintained |



FIGURE 13: SMTc REGION HIGHWAY NETWORK

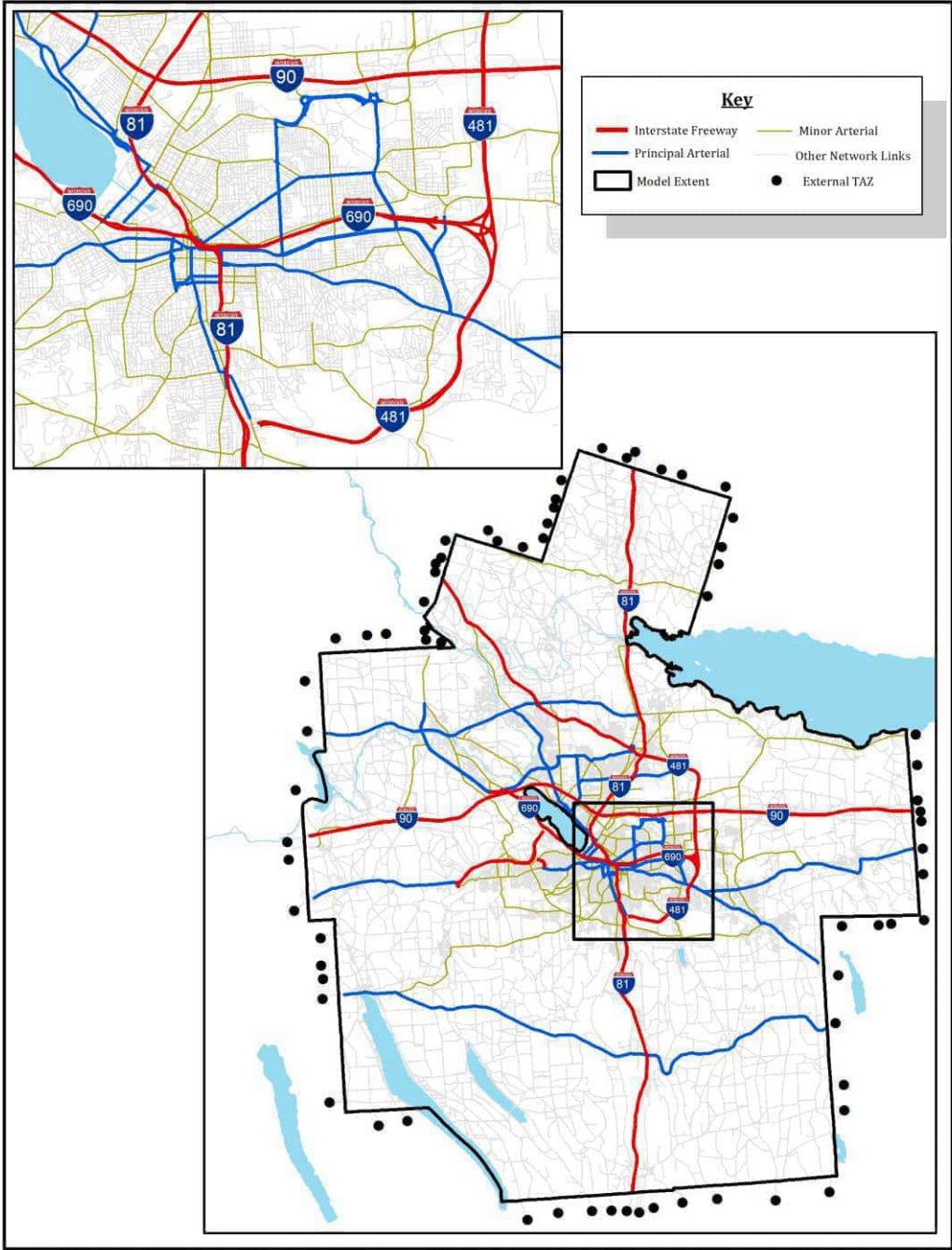




TABLE 7: HIGHWAY LINK ATTRIBUTES

| Field              | Description                                                        | Update Type     |
|--------------------|--------------------------------------------------------------------|-----------------|
| ID                 | Link identification code                                           | Immutable       |
| Dir                | Link Direction                                                     | User-maintained |
| Length             | Link length (miles)                                                | Immutable       |
| NAME               | Road name                                                          | User-maintained |
| MODEL_LINK         | Model link Indicator                                               | User-maintained |
| CENTROID_CONNECTOR | Centroid Indicator                                                 | User-maintained |
| Walk Link          | Walkable link Indicator                                            | User-maintained |
| AB_LANES           | Number of AB lanes                                                 | User-maintained |
| BA_LANES           | Number of BA lanes                                                 | User-maintained |
| FUNCCLASS_NUM      | Model functional class number                                      | User-maintained |
| FUNCCLASS          | Model functional class                                             | User-maintained |
| Area_Type          | Area Type for capacity mapping (rural, urban, Syracuse, other CDB) | User-maintained |
| COUNTY             | County                                                             | User-maintained |
| TownorCity         | Town                                                               | User-maintained |
| Municipality       | Municipality                                                       | User-maintained |
| CDP                | Census Designated Place Indicator                                  | User-maintained |
| UZA                | Urban Area Indicator                                               | User-maintained |
| Transit_Walk_Link  | Walk Link Indicator                                                | User-maintained |
| Transit_Walk_Time  | Walk access/egress time (mins)                                     | Computed        |
| AB_TOLL            | AB toll cost (dollars)                                             | User-maintained |
| BA_TOLL            | BA toll cost (dollars)                                             | User-maintained |
| AB_CapPerLane_UI   | AB Capacity override                                               | User-maintained |
| BA_CapPerLane_UI   | BA Capacity override                                               | User-maintained |
| AB_Speed_UI        | AB Speed override                                                  | User-maintained |
| BA_Speed_UI        | BA Speed override                                                  | User-maintained |
| RCSTATIONS         | Count station identifier                                           | User-maintained |
| AB_DLY_Count       | AB daily count (vehicles)                                          | User-maintained |
| BA_DLY_Count       | BA daily count (vehicles)                                          | User-maintained |



| Field               | Description                           | Update Type     |
|---------------------|---------------------------------------|-----------------|
| ABBA_DLY_Count      | Two-way daily count (vehicles)        | User-maintained |
| AB_AM_Count         | AB AM hour count (vehicles)           | User-maintained |
| BA_AM_Count         | BA AM hour count (vehicles)           | User-maintained |
| AB_PM_Count         | AB PM hour count (vehicles)           | User-maintained |
| BA_PM_Count         | BA PM hour count (vehicles)           | User-maintained |
| MODE_USED           | transit mode used (70)                | User-maintained |
| BUS_LANE            | Bus only lane                         | User-maintained |
| AB_DAILY_COUNT_2014 | 2014 AB daily count (vehicles)        | User-maintained |
| BA_DAILY_COUNT_2014 | 2014 BA daily count (vehicles)        | User-maintained |
| ABBA_DAILY_2014     | 2014 Two-way daily count (vehicles)   | User-maintained |
| AB_AM_COUNT_2014    | 2014 AB AM hour count (vehicles)      | User-maintained |
| BA_AM_COUNT_2014    | 2014 BA AM hour count (vehicles)      | User-maintained |
| AB_PM_COUNT_2014    | 2014 AB PM hour count (vehicles)      | User-maintained |
| BA_PM_COUNT_2014    | 2014 BA PM hour count (vehicles)      | User-maintained |
| Bearing_AB          | AB bearing of link                    | User-maintained |
| Bearing_BA          | BA bearing of link                    | User-maintained |
| AB_Dir              | AB cardinal direction                 | User-maintained |
| BA_Dir              | BA cardinal direction                 | User-maintained |
| SelectedAreaLink    | Indication for special link reporting | User-maintained |
| CountStation        | Count Station Indicator               | User-maintained |
| CountSource         | Source of count data                  | User-maintained |
| CountYear           | Year of count                         | User-maintained |
| countGrowth         | Growth applied to count               | User-maintained |
| Base                | Base year link indicator              | User-maintained |
| Modeled             | Modeled Link Indicator                | User-maintained |

## LINK FUNCTIONAL CLASSES

For modeling purposes, links are organized into 10 functional classes (Table 8). Links of the same functional class have similar speeds, capacities, and volume-delay parameters. To allow aggregation of VMT for emissions calculations, the Federal Highway Administration



(FHWA) Functional Class designation (including urban/rural designation) is also maintained on the highway network for each link.

**TABLE 8: LINK FUNCTIONAL CLASSES**

| MODEL CLASS NUMBER | FHWA FUNCTIONAL CLASS | MPA LANE MILES | ONONDAGA COUNTY LANE MILES | CITY OF SYRACUSE LANE MILES |
|--------------------|-----------------------|----------------|----------------------------|-----------------------------|
| 1                  | Interstate/Freeway    | 1,305          | 1074                       | 147                         |
| 2                  | Principal Arterial    | 513            | 499                        | 112                         |
| 3                  | Minor Arterial        | 668            | 620                        | 152                         |
| 4                  | Major Collector       | 824            | 697                        | 66                          |
| 5                  | Minor Collector       | 339            | 258                        | 0                           |
| 6                  | Local                 | 1,681          | 1378                       | 153                         |
| 7                  | High Capacity Ramp    | 115            | 111                        | 33                          |
| 8                  | Low Capacity Ramp     | 28             | 28                         | 3                           |
| 9                  | Centroid Connector    | N/A            | N/A                        | N/A                         |
| 10                 | External Connector    | N/A            | N/A                        | N/A                         |

### LINK CAPACITIES AND FREE-FLOW SPEEDS

Table 9 and Table 10 show link free-flow speeds and capacity, which are defined by link functional class and area type. The speed and capacity values are stored in lookup tables and automatically imported to the network each time the model runs. The main benefits of importing these data from a lookup table, as opposed to maintaining an explicit speed and capacity for every link within the highway network, are that the user has less data to manage and can easily quote values. However, there are some links in the SMTC network that warrant special attention because their actual speed or capacity is substantially different from what the lookup tables say. Therefore, the SMTC model also supports the ability to code a speed or capacity for each link by entering a value into the “CapPerLane\_UI” or “Speed\_UI” fields on the network (see). A null value in either of these fields, the default condition, indicates that the lookup table is to be used.



**TABLE 9: FREE-FLOW SPEED (MPH) LOOKUP TABLE**

| FUNCTIONAL CLASS   | SYRACUSE | OTHER CDP | URBAN | RURAL |
|--------------------|----------|-----------|-------|-------|
| Interstate/Freeway | 55       | 65        | 65    | 65    |
| Principal Arterial | 40       | 50        | 50    | 55    |
| Minor Arterial     | 30       | 35        | 45    | 55    |
| Major Collector    | 25       | 25        | 35    | 40    |
| Minor Collector    | 25       | 25        | 35    | 40    |
| Local              | 25       | 25        | 30    | 35    |
| High Capacity Ramp | 40       | 40        | 40    | 40    |
| Low Capacity Ramp  | 30       | 30        | 30    | 30    |
| Centroid Connector | 30       | 30        | 30    | 30    |

**TABLE 10: CAPACITY (VEHICLES PER LANE PER HOUR) LOOKUP TABLE**

| FUNCTIONAL CLASS   | SYRACUSE | OTHER CDP | URBAN  | RURAL  |
|--------------------|----------|-----------|--------|--------|
| Interstate/Freeway | 1,900    | 1,900     | 1,900  | 1,900  |
| Principal Arterial | 1,600    | 1,600     | 1,600  | 1,600  |
| Minor Arterial     | 1,200    | 1,200     | 1,200  | 1,200  |
| Major Collector    | 1,000    | 1,000     | 1,000  | 1,000  |
| Minor Collector    | 950      | 950       | 950    | 950    |
| Local              | 450      | 450       | 450    | 450    |
| High Capacity Ramp | 1,500    | 1,500     | 1,500  | 1,500  |
| Low Capacity Ramp  | 1,500    | 1,500     | 1,500  | 1,500  |
| Centroid Connector | 99,999*  | 99,999    | 99,999 | 99,999 |

\*99,999 = unconstrained capacity

## LINK TRAVEL TIMES

The free-flow speeds (Table 9) are used along with the link length field to calculate a free-flow travel time which is used during the first model iteration in the distribution and mode choice steps. Following an initial highway assignment and feedback step (see section 13.0), congested travel times are loaded onto the network and used in the subsequent iteration through the distribution and mode choice steps.



## INTERSECTION CAPACITIES

The SMTTC model uses 54 node types (Table 11); 45 of these node types describe different signalized intersections designs. Each node type is associated with a different intersection capacity.

**TABLE 11: NODE CLASSES**

| NODE DESCRIPTION           | NODE TYPE VALUE | CAPACITY                                                                                                                                                                                 |
|----------------------------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Signalized Intersections   | 1-28; 70-86     | From Lookup Table                                                                                                                                                                        |
| 1 or 2 way stop            | 30              | Governed by cap. of local street with stop control                                                                                                                                       |
| 3 or 4 way stop            | 41-43           | From Lookup Table                                                                                                                                                                        |
| Ramp Merge/Lane Drop       | 51              | Governed by cap. of entering/exiting segments                                                                                                                                            |
| Ramp Diverge/Lane Addition | 52              | Governed by cap. of entering/exiting segments                                                                                                                                            |
| Tollbooth                  | 61              | By Equation: $[(1,400 * \# \text{ E-Z Pass Lanes}) + (360 * \# \text{ Cash Lanes})]$ where 1,400 is the hourly capacity of an E-ZPass lane and 360 is the hourly capacity of a cash lane |
| Internal Centroid          | 101             | N/A                                                                                                                                                                                      |
| External Centroid          | 102             | N/A                                                                                                                                                                                      |

### ***Signalized Intersections***

Previously for the SMTTC model, a series of capacity analyses were performed in Synchro/SimTraffic (version 5.0) to determine appropriate planning-level capacities for signalized intersections. Several assumptions were necessary:

Cycle length = 90 seconds

Traffic volume on the main street is directionally balanced and is distributed among turning movements in the ratio of 1:4:1 (left turns: through vehicles: right turns)

Traffic volume on the side street is directionally balanced and is distributed in the ratio of 1:2:1

Capacity is reached when critical movements have a v/c ratio between 1.0 and 1.1

The capacities of the nodes that represent signalized intersections are based on analyses historically performed in Synchro/SimTraffic (version 5.0). The node capacities for signalized intersections and the intersection codes used to identify the type of signalized intersection in the node attribute table are shown Table 12. The intersection codes are shown in parentheses in each cell in the table and the node capacities are shown as approximate daily capacities, which are calculated as the hourly capacity multiplied by 10.



**TABLE 12: SIGNALIZED INTERSECTION CODES AND 24-HOUR CAPACITY VALUES**

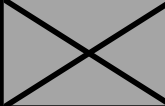
|                                                                                   | Minor Lane Groups             |  |  |  |  |  |  |  |  |  |
|-----------------------------------------------------------------------------------|-------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Major Lane Group                                                                  |                               | Single                                                                            | Left Turn Bays                                                                    | Left & Right Turn Bays                                                            | Left & 2 Through                                                                  | Left, Right & 2 Through                                                           | 2 Throughs                                                                        | 3 Throughs                                                                          | Left & 3 Through                                                                    | Left, Right and Three Through                                                       |
|  | Single                        | (1)<br>23,000                                                                     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
|  | Left Turn Bays                | (2)<br>28,000                                                                     | (3)<br>33,000                                                                     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
|  | Left & Right Turn Bays        | (4)<br>31,000                                                                     | (5)<br>36,000                                                                     | (6)<br>38,000                                                                     |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
|  | Left & 2 Through              | (7)<br>40,000                                                                     | (8)<br>44,000                                                                     | (9)<br>49,000                                                                     | (10)<br>53,000                                                                    |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
|  | Left, Right & 2 Throughs      | (11)<br>46,000                                                                    | (12)<br>50,000                                                                    | (13)<br>54,000                                                                    | (14)<br>58,000                                                                    | (15)<br>62,000                                                                    |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
|  | 2 Throughs                    | (16)<br>29,000                                                                    | (17)<br>33,000                                                                    | (18)<br>37,000                                                                    | (19)<br>39,000                                                                    | (20)<br>43,000                                                                    | (21)<br>35,000                                                                    |                                                                                     |                                                                                     |                                                                                     |
|  | 3 Throughs                    | (22)<br>32,000                                                                    | (23)<br>36,000                                                                    | (24)<br>40,000                                                                    | (26)<br>46,000                                                                    | (26)<br>46,000                                                                    | (27)<br>38,000                                                                    | (28)<br>40,000                                                                      |                                                                                     |                                                                                     |
|  | Left & 3 Through              | (70)<br>48,000                                                                    | (71)<br>52,000                                                                    | (72)<br>56,000                                                                    | (73)<br>60,000                                                                    | (74)<br>64,000                                                                    | (75)<br>50,000                                                                    | (76)<br>54,000                                                                      | (77)<br>66,000                                                                      |                                                                                     |
|  | Left, Right and Three Through | (78)<br>50,000                                                                    | (79)<br>54,000                                                                    | (80)<br>58,000                                                                    | (81)<br>62,000                                                                    | (82)<br>66,000                                                                    | (83)<br>52,000                                                                    | (84)<br>56,000                                                                      | (85)<br>68,000                                                                      | (86)<br>72,000                                                                      |

### Unsignalized Intersections

Unsignalized intersections are separated into two types: two-way stop controlled and four-way stop controlled. Delay at a two-way stop-controlled intersection is typically much greater on the stop sign controlled approaches than the uncontrolled (no stop sign) approaches. Since stop-controlled approaches are generally local streets which intersect with each other or higher functional class roadways, the link capacity of local streets was set at 450 vehicles per lane per hour to reasonably replicate the capacity of stop-controlled approaches. In this way, delay is attributed to the local street links that are stop controlled, and no delay is attributed to the uncontrolled approaches. Four-way stop control intersections have more uniform delay for the intersection because all approaching vehicles must stop. Capacity analysis runs were performed for four-way stop control intersections to develop hourly intersection capacities; the daily node capacities shown in Table 13 are calculated as the hourly capacity multiplied by 10. The table also shows, in parentheses in each cell, the intersection codes used to identify the type of unsignalized intersection in the node attribute table.



**TABLE 13: UNSIGNALIZED 4-WAY STOP INTERSECTION CODES AND 24-HOUR CAPACITY VALUES**

|                                                                                   |                                                                                   |                                                                                   |                                                                                    |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
|                                                                                   | Minor Lane Groups                                                                 |  |  |
| Major Lane Group                                                                  |  | Single                                                                            | 2 Throughs                                                                         |
|  | Single                                                                            | (41)<br>14,000                                                                    |  |
|  | 2 Throughs                                                                        | (42)<br>19,000                                                                    | (43)<br>24,000                                                                     |

**Ramp Junctions**

Ramp junctions are found where a ramp joins either another ramp or a freeway. Ramp junctions can be classified as either “merges” or “diverges”. A merge is where traffic flows come together, such as an onramp, and a diverge is the opposite. The Highway Capacity Manual (HCM) indicates that the capacity of a merge or diverge area is controlled by the capacity of the freeway segments upstream and downstream of the merge/diverge area, or the ramp itself.<sup>3</sup> Therefore, since the freeway segments and ramp both have link capacities, it is redundant to also apply a capacity restraint to the merge point. Ramp junctions are identified using a unique value for the “node type” field for tracking purposes, but are not given capacity values independent of the adjacent links.

**Lane Additions/Drops**

Similar to ramp junctions, the HCM indicates that lane additions and drops are controlled by the lower of the capacity of either the segment upstream or downstream of the lane addition/drop.<sup>4</sup> In the case of a lane addition, the governing capacity is the upstream link; vice versa for a lane drop. Since these capacity values are contained in the roadway links themselves, it would be redundant to also include a capacity restraint at the lane addition/drop, and these situations were treated in a similar manner to ramp junctions.

**Tollbooths**

Tollbooths are found in the SMTC area only at the entrances/exits to the NY Thruway. The on and off toll plazas are modeled separately. Capacity is determined by the following equation:

$$\text{Hourly Directional Capacity} = [1,400 * (\# \text{ E-Z Pass Lanes})] + [360 * (\# \text{ Cash Lanes})]$$

<sup>3</sup> HCM 2000 Edition; page 25-3

<sup>4</sup> HCM; page 25-9

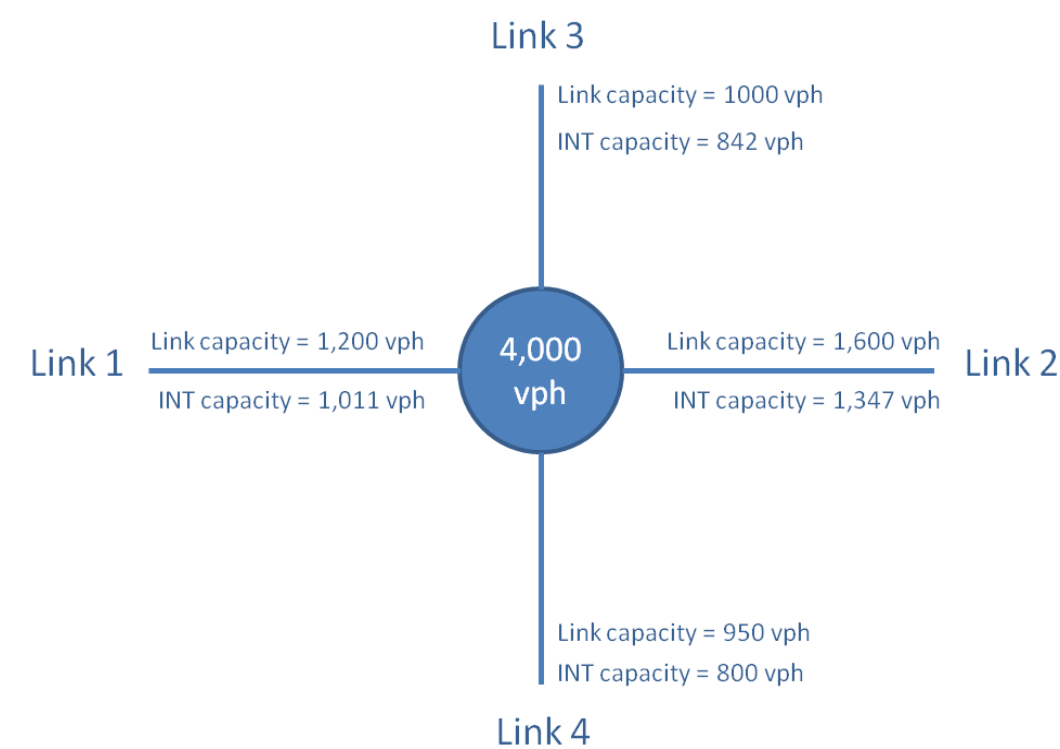


Where 1,400 is the hourly capacity of an E-ZPass lane and 360 is the hourly capacity of a cash lane.

**Allocation of Intersection Capacity to Links**

Intersection delay is calculated separately for each of the approach links and necessitates having an “intersection” capacity, separate from the “link” capacity of each link. The delay calculations are described in Section 11.0. For signalized intersections, each approach link is awarded a share of the total intersection capacity based on the shares of link capacity between the approaches. Table 14 presents a sample calculation of node capacity allocation, showing what the intersection capacity for each of four approaches to a intersection would be, based on assumed link capacities. This method was adopted because it awards intersection capacity based on the expected shares of green time between the approaches and their ability to move vehicles through the intersection.

**TABLE 14: SAMPLE ALLOCATION OF NODE CAPACITY**



| Link Segment | Link Capacity (vph) | Share | Node Capacity (vph) |  | INT Capacity (vph) |
|--------------|---------------------|-------|---------------------|--|--------------------|
| 1            | 1,200               | 25%   | x    4000    =      |  | 1,011              |
| 2            | 1,600               | 34%   |                     |  | 1,347              |
| 3            | 1,000               | 21%   |                     |  | 842                |
| 4            | 950                 | 20%   |                     |  | 800                |
| Total        | 4,750               | 100%  |                     |  | 4,000              |



## TURN PENALTIES AND PROHIBITIONS

Turn penalties were included in the model for two general reasons. First, turn penalties were included to simulate the extra time typically needed to make a left or right turn at an intersection. Second, turn penalties were included to discourage the model from building routes with abrupt or complicated movements. In the absence of turn penalties, the route builder may select a zigzagging shortcut to save a few seconds of travel time, while in reality drivers generally prefer simpler routes with few turns. A 1/6 minute penalty was applied to left turns, and a 1/12 minute penalty was applied to right turns.

Freeway ramp penalties were also added to discourage trips from switching to the freeway for short distances. Since the ramp penalties are a constant amount of time they have the most impact on short (one or two exit) freeway trips. Switching to the freeway for these small distances will typically only gain a small time saving compared to the best arterial path, and so adding the ramp penalty maintains most of these trips on the best arterial path. Trips that might benefit from longer freeway segments, spanning several exits, which have a large time savings compared to the best arterial path, are less likely to be pushed to the best arterial path by the ramp penalties.

The ramp penalties add 20 seconds of delay to transitions from freeway to ramps. The ramp penalties were adjusted during the model calibration process to improve the goodness of fit compared to observed data.

The model also includes a number of turn prohibitions. The list of turn prohibitions includes all of the posted, illegal movements, U-Turns, and other link-to-link movements that involve greater than 90-degree turns.



## 5.0 MODEL TRANSIT NETWORK

---

Transit routes were coded into the model based on information obtained from the SMTTC region's transit operator, CENTRO, including routes, fare, and headway information. The service offered by CENTRO is represented in the model by 104 routes serving 2,145 stop locations. Figure 14 shows the model's transit network.

### 5.1 | TRANSIT NETWORK DESIGN

The model's transit network is built at run-time from a series of text files that enumerate the routes (Table 16), stops (Table 15), and stops visited by each route in the region (Table 17). This design, as opposed to one where the transit network is precompiled to a geographic database, allows for better data management and ease and flexibility in making edits. The transit network is built on top of the highway network and has access to all of the highway network attributes (Table 7).

### ROUTE SIMPLIFICATIONS

The CENTRO bus system is quite detailed, with base routes and multiple route deviations/extensions for most of the base routes. In general, the route deviations associated with a base route overlap to a large degree with each other and serve largely the same population, but the deviations provide infrequent service to some riders/destinations which otherwise are not as well served. Because transit modeling methodologies used in regional models are not sensitive to the very precise detail in CENTRO's bus system, minor and infrequent deviations of primary routes were grouped into one or two routes to represent bus service in a corridor. Therefore, although the model route system is a simplification of the CENTRO bus system, the forecasting results are similar to results that would have been achieved if the full detail of the route network had been included.

### STOP SIMPLIFICATIONS

Local bus service is assumed to stop at every model node, while express service only stops at specified locations. This assumption was made to ease the burden of managing the stops layer. For local services, key stops (those indicated in the CENTRO schematic maps) visited by local bus routes are indicated and the route-building procedure adds in the intermediate stops. Although this assumption leads to an over prediction in the number of local bus stops, the transit travel times are not altered by this procedure.

### ROUTE BUILDING

The transit route system is built by the following procedure:

Each stop in the stops file (Table 15) is coded to the closest node in the highway network.

1. For each route, the schedule of bus stops (Table 17) is translated into a schedule of highway nodes.
2. The shortest path between successive stops is calculated by minimizing generalized cost.

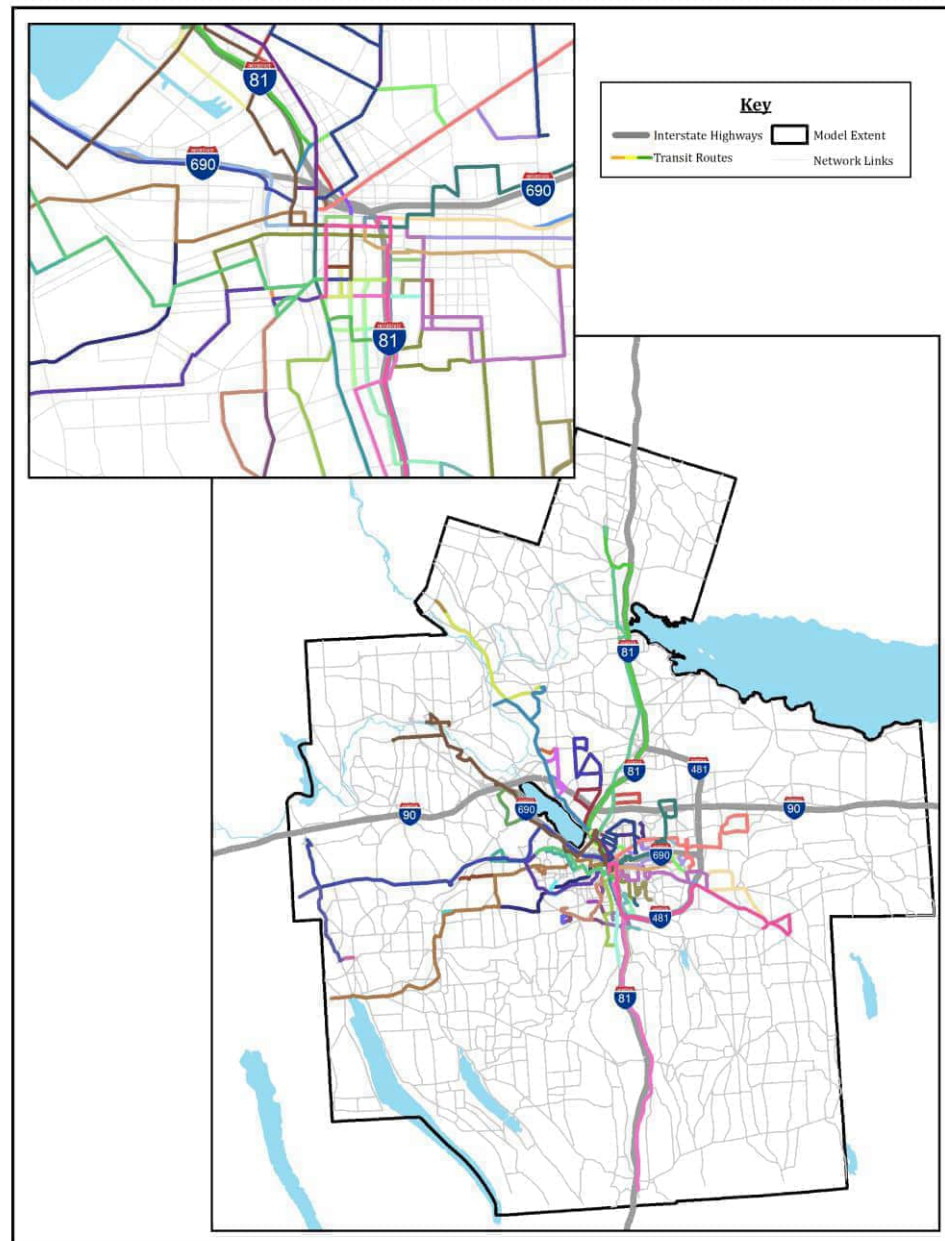


3. For local bus routes, stops are added in at each highway node along the traversed path.

### WALK ACCESS/EGRESS/TRANSFERS LINKS

Transit models need a set of links to support the access/egress/transfer walk movements made in traveling to a destination. In this model, the highway network doubles as the set of valid walk links.

**FIGURE 14: SMTC REGION TRANSIT NETWORK**





## 5.2 | TRANSIT NETWORK ATTRIBUTES

Some of the attributes of the transit network, such as travel times, are inherited from the highway network, while others are maintained in either the transit routes table (Table 16), transit stops table (Table 15), transit route-stops table (Table 17), or the transit mode table (Table 18). The key variables in the transit network are travel times (peak and off-peak), walk times, headways (peak and off-peak), and fares.

### TRAVEL TIMES

Transit travel times were estimated by scaling up auto travel times. The auto travel times were scaled to account for time lost by transit vehicles as they are making stops (deceleration before the stop, dwell time at the stop, and acceleration away from the stop) and their slower speeds than autos in general. The scale factors were estimated by taking scheduled travel times for a set of transit routes, and dividing these times by the modeled auto travel times for the corresponding paths. Local bus service was set to travel at 60% of the congested auto speed and express bus service was set to travel at 95% of the congested auto speed. Peak transit travel times were developed using the AM auto travel times and off-peak transit travel times were developed using the midday highway auto travel times.

### WALK TIMES

Transit walk times (access/egress/transfer) were calculated for each link by assuming a 4 mph walk speed, which was retained from the previous version of the SMTc model.

### HEADWAYS

Peak and off-peak headway times were developed for each route by considering the route schedules obtained from CENTRO. Two estimates of the headway time were calculated and judgment was used to select between them. The traditional method of dividing the period length by the number of buses run in that period was used to obtain one estimate, but also, the route schedules were inspected to see if a mode (highest frequency) time interval appeared between subsequent runs. For instance, if the first half-hour of the AM period had no transit trips, but the service then ran at regular 15 minutes intervals for the rest of the period, then 15 minutes would have been selected as the headway time.

### FARES

The model assumes a one dollar fare with free transfers. The one dollar fare is less than the generic, one-ride fare because there are a number of special deals for children, students, the elderly, and frequent riders, that would drive the realized average cost down.

**TABLE 15: TRANSIT STOPS TABLE**

| FIELD    | DESCRIPTION                        | UPDATE TYPE     |
|----------|------------------------------------|-----------------|
| RecordID | Transit stop identification number | Immutable       |
| STOP_ID  | Transit stop identification number | User-Maintained |



| FIELD     | DESCRIPTION                                | UPDATE TYPE     |
|-----------|--------------------------------------------|-----------------|
| STOP      | Transit stop name                          | User-Maintained |
| DIRECTION | Transit stop direction (inbound, outbound) | User-Maintained |
| LONGITUDE | Longitude of stop                          | User-Maintained |
| LATITUDE  | Latitude of stop                           | User-Maintained |
| NODE_ID   | Highway node identification number         | Computed        |

**TABLE 16: TRANSIT ROUTES**

| FIELD           | DESCRIPTION                         | UPDATE TYPE     |
|-----------------|-------------------------------------|-----------------|
| RTE_ID          | Transit route identification number | User-Maintained |
| RTE_NAME        | Transit route name                  | User-Maintained |
| INOUTBOUND      | Inbound (In) or Outbound (Out)      | User-Maintained |
| CENTRO_BASE_NUM | CENTRO route number                 | User-Maintained |
| CENTRO_RTE_NUM  | CENTRO route number                 | User-Maintained |
| PEAK_BUSES      | Number of buses in peak period      | User-Maintained |
| OFFPEAK_BUSES   | Number of buses in off-peak period  | User-Maintained |
| PEAK_HEADWAY    | Peak headway (mins)                 | User-Maintained |
| OFFPEAK_HEADWAY | Off-Peak headway (mins)             | User-Maintained |
| MODE_USED       | Mode Used = 1                       | User-Maintained |

**TABLE 17: TRANSIT ROUTE STOPS**

| FIELD           | DESCRIPTION                          | UPDATE TYPE     |
|-----------------|--------------------------------------|-----------------|
| RTE_ID          | Transit route identification number  | User-Maintained |
| CENTRO_BASE_NUM | CENTRO route number                  | User-Maintained |
| CENTRO_RTE_NUM  | CENTRO route number                  | User-Maintained |
| RTE_NAME        | Transit route name                   | User-Maintained |
| DIRECTION       | Router direction (inbound, outbound) | User-Maintained |
| STOP_ID         | Transit stop identification number   | User-Maintained |
| NODE_ID         | Node identification code             | User-Maintained |
| STOP_NAME       | Transit stop name                    | User-Maintained |
| VALID_STOP      | 0=invalid stop, 1=valid stop         | User-Maintained |



**TABLE 18: MODE ATTRIBUTES**

| <b>FIELD</b> | <b>DESCRIPTION</b>              | <b>UPDATE TYPE</b> |
|--------------|---------------------------------|--------------------|
| MODE_NAME    | Transit mode name               | User-Maintained    |
| MODE_ID      | Mode identification number      | User-Maintained    |
| TYPE         | Mode type (1, 2, 70)            | User-Maintained    |
| FARE_TYPE    | Fare type                       | User-Maintained    |
| SPEED        | Default mode speed (mph)        | User-Maintained    |
| P_HEADWAY    | Default peak headway (mins)     | User-Maintained    |
| OP_HEADWAY   | Default off-peak headway (mins) | User-Maintained    |
| FARE         | Mode fare (dollars)             | User-Maintained    |
| MODE_USED    | 0=no, 1=yes                     | User-Maintained    |
| MODE2        | 0=no, 1=yes                     | User-Maintained    |
| IMP_FIELD    | Network impedance field         | User-Maintained    |



## 6.0 TRIP GENERATION

The trip generation model estimates person-trips produced in and attracted to each TAZ in the model. These estimates result from multiplying the land-use data for each TAZ, such as the number of dwelling units and employment numbers, by regional trip generation coefficients.

### 6.1 | TRIP PURPOSE AND MODEL STRUCTURE

The model has four internal trip purposes (which include trips with one trip end outside of the model region), commercial trips, and external trips. These trip purposes are shown in Table 19.

**TABLE 19: TRIP PURPOSE DEFINITIONS**

| TRIP PURPOSE         | ABBREVIATION | DESCRIPTION                                                                                     |
|----------------------|--------------|-------------------------------------------------------------------------------------------------|
| Home-Based Work      | HBW          | A trip where one end is home and the other end is work                                          |
| Home-Based Shopping  | HBS          | A trip where one end is home and the other end is a shopping location                           |
| Home-Based Other     | HBO          | A trip where one end is home and the other end is NOT work or shopping                          |
| Non Home-Based       | NHB          | A trip where neither end is home                                                                |
| Light Commercial     | L_COMM       | A trip made by a commercial vehicle with 4 tires                                                |
| Medium Commercial    | M_COMM       | A trip made by a commercial vehicle with 6 tires                                                |
| Heavy Commercial     | H_COMM       | A trip made by a commercial vehicle with >6 tires                                               |
| Internal to External | IX           | A trip with origin inside and destination outside model                                         |
| External to Internal | XI           | A trip with origin outside and destination inside model                                         |
| External-to-External | XX           | A trip originating and terminating outside of the model, but passing through the model en route |

Productions and attractions are most useful in describing home-based trips. For home-based trips, the production ends occur at the trip maker's residence. Trip productions are estimated from the number and type of housing units within a TAZ. Non home-based (NHB) trips do not feature a "trip maker's residence" and so the production end is defined as being the origin end. Attraction ends are estimated from the quantity of trip-attracting land uses in the TAZ, including workplaces, shops, other residences and schools. For home-based trips, the attraction end is defined as the end that is not the trip maker's residence. For NHB trips, the attraction end is defined as being the destination end. The total number of attractions for each trip type must equal the total number of productions; if productions and attractions are out of balance, the total regional attractions are adjusted to match total regional productions.



Productions and attractions are different from origins and destinations in that productions and attractions do not indicate the direction of travel for 1-way trips. When one leaves home for work in the morning, the origin (home) is also the production. In the afternoon, when one returns home from work, it is the destination (home) which is the production. The origin end is defined as the starting point of any 1-way trip, and the destination end is defined as the ending point of any 1-way trip.

Daily trip production and attraction models were developed for the 2014 model from a combination of sources, including the 2004 SMTC Household Travel Survey, the 2001 NHTS, and the Institute of Transportation Engineers (ITE) trip generation manual.

## 6.2 | TRIP PRODUCTION RATES

The model uses a cross-classification approach to estimate trip productions. For each TAZ, households are cross classified according to size (1 person, 2 persons, 3 persons, or 4+ persons) and auto ownership (0 auto, 1 auto, 2 autos, or 3+ autos). Separate trip production estimates are used for each of the 16 household types and for each trip purpose. Table 23 shows the trip production rates for internal HBW, HBS, HBO and NHB trip productions, and the total trip production rates.

### ESTIMATION

An initial estimate of the trip production rates was calculated from the 2004 SMTC Household Travel Survey by dividing the number of survey trips by total households for each cross-class (Table 20). A number of refinements were then made to the initial estimates. It was asserted that as household size increases, the production rate must also increase, and as number of vehicles increases, the production rate must not decrease. This assertion was important for obtaining reasonable production rates for cross-class combinations that were poorly represented in the survey, such as one person, 2+ vehicle households. The production rates were smoothed manually, but the general heuristic applied was that cross-class combinations involving more survey records, such as one person, one vehicle households, should be used as the guide values on which to base the row and column trends. The 2004 SMTC production rates were also checked for reasonableness against the 2001 and 2009 NHTS production rates (Table 21) for Rochester, NY, a city of comparable size.

**TABLE 20: INITIAL DAILY TRIP PRODUCTION RATES**

| HH SIZE | HH VEHICLES |      |      |      |
|---------|-------------|------|------|------|
|         | 0           | 1    | 2    | 3+   |
| 1       | 1.6         | 4.0  | 3.4  | 3.7  |
| 2       | 4.3         | 7.2  | 7.7  | 7.3  |
| 3       | 6.2         | 12.0 | 10.2 | 8.6  |
| 4+      | 10.2        | 12.9 | 17.1 | 16.0 |



**TABLE 21: 2001 NHTS DAILY TRIP PRODUCTION RATES FOR ROCHESTER, NY**

| HH SIZE | HH VEHICLES |      |      |      |
|---------|-------------|------|------|------|
|         | 0           | 1    | 2    | 3+   |
| 1       | 3.4         | 4.5  | 3.9  | 6.0  |
| 2       | 4.5         | 6.8  | 7.2  | 7.8  |
| 3       | 7.0         | 9.7  | 11.2 | 12.6 |
| 4+      | 10.8        | 13.2 | 13.8 | 15.4 |

Each trip in the 2004 SMTC Household Travel Survey was classified as belonging to one of the four model trip purposes, and then trip purpose shares were calculated for each household size group as shown in Table 22. These trip purpose shares were then multiplied into the smoothed daily trip production rates to calculate the number of trip productions.

**TABLE 22: TRIP PURPOSES SHARES BY HOUSEHOLD SIZE**

| HH SIZE | HBW   | HBS   | HBO   | NHB   | Total |
|---------|-------|-------|-------|-------|-------|
| 1       | 19.8% | 24.1% | 28.9% | 27.1% | 100%  |
| 2       | 21.3% | 22.0% | 33.1% | 23.6% | 100%  |
| 3       | 22.3% | 10.8% | 43.1% | 23.8% | 100%  |
| 4       | 18.0% | 7.9%  | 52.3% | 21.8% | 100%  |

## ADJUSTMENTS TO TRIP PRODUCTIONS

In the SMTC version 4.0 model, a number of adjustments to the trip productions were made at run-time. These adjustments were made to help calibrate the model, discard trips using special, non-auto modes, and/or compensate for biases typically introduced into household travel surveys (the model production rates are based on household travel survey data). The current model employs only one of these former adjustments (school bus trip reduction). Other previous adjustments are no longer made, however, the overall production rate table has been updated to accomplish a similar goal. The following cumulative change is made to the initial productions totals:

School bus trips are removed from the initial production because they represent a negligible number of vehicle-trips and would otherwise add unneeded complexity; in accordance with the number of school bus trips in the 2004 Household Survey, 22.6% of HBO trips are discarded.

The version 5 production rate table is shown below.



**TABLE 23: PRODUCTION RATES (TRIPS/HOUSEHOLD/DAY) BY TRIP PURPOSE, HOUSEHOLD SIZE AND HOUSEHOLD VEHICLES SMTC MODEL 5.0**

|         |    | HH VEHICLES |      |      |      |
|---------|----|-------------|------|------|------|
| HH SIZE |    | 0           | 1    | 2    | 3+   |
| HBW     | 1  | 0.5         | 0.7  | 0.7  | 0.8  |
|         | 2  | 0.9         | 1.4  | 1.5  | 1.5  |
|         | 3  | 1.3         | 2.1  | 2.3  | 2.4  |
|         | 4+ | 1.8         | 2.2  | 2.6  | 2.8  |
| HBS     | 1  | 0.8         | 1.1  | 1.2  | 1.2  |
|         | 2  | 1.2         | 1.9  | 2.0  | 2.0  |
|         | 3  | 0.8         | 1.4  | 1.5  | 1.5  |
|         | 4+ | 1.0         | 1.3  | 1.5  | 1.6  |
| HBO     | 1  | 0.8         | 1.2  | 1.2  | 1.3  |
|         | 2  | 1.5         | 2.5  | 2.5  | 2.6  |
|         | 3  | 2.8         | 4.6  | 5.0  | 5.1  |
|         | 4+ | 5.7         | 7.2  | 8.3  | 8.9  |
| NHB     | 1  | 0.8         | 1.3  | 1.3  | 1.4  |
|         | 2  | 1.2         | 2.0  | 2.1  | 2.2  |
|         | 3  | 1.8         | 2.9  | 3.2  | 3.3  |
|         | 4+ | 2.8         | 3.5  | 4.1  | 4.3  |
| Total   | 1  | 2.8         | 4.3  | 4.4  | 4.6  |
|         | 2  | 4.7         | 7.9  | 8.1  | 8.3  |
|         | 3  | 6.8         | 11.0 | 12.1 | 12.3 |
|         | 4+ | 11.2        | 14.2 | 16.4 | 17.5 |

### 6.3 | TRIP ATTRACTION RATES

Trip attraction rates for HBW, HBS, HBO and NHB trip purposes were developed using ITE trip generation rates by land-use type and are shown in Table 24. The trip attraction rates are in units of person-trips per employee per day (or person-trips per housing unit per day in the case of households). The attraction rates vary across trip purposes and (possibly) within each trip purpose to reflect the nature of the trip in conjunction with the nature of the employment class. HBW attraction rates, for instance, do not vary by employment class



because the number of trips a worker is expected to make to/from her place of work does not vary much based on what type of job she has. However, HBS/HBO/NHB attractions rates do vary by employment class because certain businesses, such as restaurants, have many more non-work attractions per employee than others, such as factories.

**TABLE 24: ATTRACTIONS RATES (TRIPS PER EMP/HH/DAY) BY PURPOSE AND LAND-USE**

| LAND USE EMPLOYMENT CLASS                 | HBW  | HBS   | HBO   | NHB   |
|-------------------------------------------|------|-------|-------|-------|
| AGRICULTURAL                              | 1.45 | -     | -     | 1.57  |
| BUS_LEGAL_PERSONAL                        | 1.45 | -     | 1.12  | 0.75  |
| COMMUNICATION                             | 1.45 | -     | -     | 2.55  |
| CONSTRUCTION                              | 1.45 | -     | -     | 0.55  |
| EAT_DRINKING                              | 1.45 | -     | 10.83 | 7.22  |
| EDUCATION                                 | 1.45 | -     | 3.63  | 2.42  |
| FIRE (Financial, Insurance & Real Estate) | 1.45 | -     | 1.12  | 0.75  |
| GOVERNMENT                                | 1.45 | -     | 3.78  | 2.52  |
| HEALTH                                    | 1.45 | -     | 4.48  | 2.98  |
| HOTELS_LODGE                              | 1.45 | -     | -     | 12.89 |
| MANUFACTURING                             | 1.45 | -     | -     | 2.55  |
| MINING                                    | 1.45 | -     | -     | 1.57  |
| NONCLASSIFIABLE                           | 1.45 | -     | -     | 1.87  |
| RETAILTRADE                               | 1.45 | 14.02 | -     | 9.34  |
| SERVICE                                   | 1.45 | -     | -     | 1.87  |
| SOCIALSERVICES                            | 1.45 | -     | 3.78  | 2.52  |
| TRANSPORTATION                            | 1.45 | -     | -     | 5.54  |
| UTILITIES                                 | 1.45 | -     | -     | 2.55  |
| WHOLESALETRADE                            | 1.45 | 4.06  | -     | 2.7   |
| HOUSEHOLDS                                | -    | -     | 0.84  | 0.56  |

## 6.4 | NON-MOTORIZED TRIPS

The SMTTC Version 5.0 model includes a pre-distribution non-motorized binomial logit model where non-motorized shares are related to zone's walkability, residential density, employment density, and intersection density, which serve as proxies for variables which tend to increase walking and bicycling activity. A subsequent post-distribution nested multinomial logit-form mode choice model is used to estimate the split among auto trips,



bus trips, and rail trips, and there are separate mode choice models for work and non-work trips.

The 4-step model process arbitrarily splits a simultaneous decision-making process into 4 sequential steps in order to facilitate computation. This simplification can introduce a number of errors when it comes to replicating travel behavior. Some of these errors can be addressed programmatically or algorithmically. However, there is no obvious way to correct for non-motorized trip behavior in a standard 4-step model formulation. In the typical 4-step model, travelers first decide where to travel without considering potential walking destinations, realize they can't walk to the destination and then chose to drive. In such a model, walk trips can only substitute or replace very short driving trips. Moving the non-motorized mode choice ahead of the trip distribution step attempts to solve this problem.

A binomial logit mode split model is applied to calculate non-motorized mode shares. Non-motorized shares are calculated for all TAZ-to-TAZ pairs based on urban form variables on each end of the trip. Then, zone pairs with walk times greater than 20 minutes (approximately 1 mile) are eliminated from consideration. Intrazonal non-motorized trips are always permitted, but this approach limits the number of interzonal trips to those that are actually feasible. The urban form variables used in the logit model are zone's walkability, housing density, employment density, and intersection density. At first glance it may appear strange that walk time is not included as part of the model. However, walk time is implicitly included in the urban form variables. When there is a high density of land uses and a dense street grid, walk times to some destinations will be short.

Finally, the trip distribution and mode choice steps are adjusted to properly account for the pre-distribution non-motorized trip model. The walk trips are removed from the production-attraction trip table prior to the main model distribution step, so that only motorized person trips are then distributed.

## **6.5 | SPECIAL GENERATORS**

Special generators are TAZs with unique characteristics and whose trip making is best represented with a custom model. The special generator designation is typically given to land uses that attract or produce an unusually high number of trips, or are characterized by an unusually flat or steep trip distribution, such as airports, which attract auto trips by passengers from near and far, and universities, which predominantly attract short, walk trips by students living on or close to campus.

Attractions to the 16 special generator TAZs (Figure 15) were developed using ITE trip generation rates in conjunction with data collected by the SMTC from the principal employers in each special generator. In most cases, the total attractions to each special generator were calculated by multiplying the amount of a key variable, such as the number of beds in a hospital, into an ITE formula specifically designed for that key variable. The key variable is either a proxy (e.g. the number of square feet in a mall) or related to the actual reason (e.g. the number of students in a university) for why each business attracts trips. The specific key variable selected for each special generator was based both on what data the



SMTTC could collect from specific employers and what variables the ITE has developed attraction rates for.

For two of the special generators, the normal technique for estimating trip attractions (as described in Section 6.2 |) of multiplying the number of employees categorized by SIC code by the ITE based rates shown in Table 24 was used. This approach was used where the custom ITE trip generation rate approach did not yield reasonable results. Three of the special generators were not modeled because they attract trips at only infrequent/irregular intervals and are unlikely to impact traffic on a typical weekday. For instance, the Carrier Dome is not modeled because it attracts a significant number of trips only when it hosts events. Table 25 presents the type of calculation (“type”), which indicates whether the special generator is modeled by a key variable or based on employment by SIC code; if there is a key variable, then the table presents that variable (“key variable”), the key variable amount (“VAR Amount”), and the corresponding formula (“Trip End Formula”); finally, the table presents the resulting number of total attractions (“Attractions”).

The SIC employment data were used to allocate special generator attractions among the four trip purposes. First, the standard technique, as described in Section 6.2 |, of estimating trip attractions from SIC data was used to calculate total attractions by trip purpose. Then, these shares were multiplied into the total trip-ends presented into Table 25. Finally, the resulting trip purpose splits were adjusted using judgment.

For special generators containing households, home-based productions were estimated using the same methodology as employed for internal TAZs (see Section 6.2 |). Non-home-based productions were set equal to the number of non-home-based attractions.



FIGURE 15: SPECIAL GENERATORS

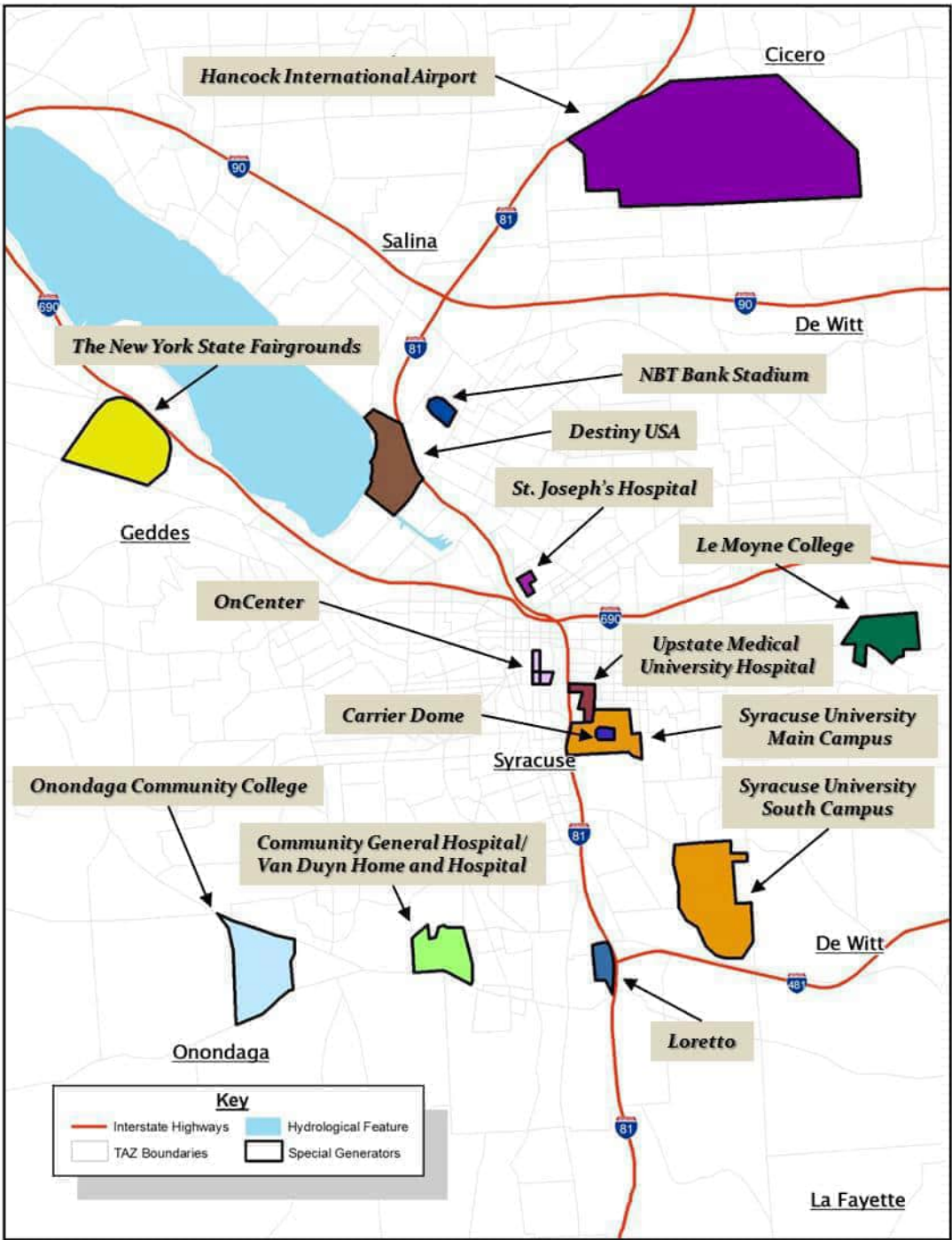




TABLE 25: TOTAL ATTRACTIONS BY SPECIAL GENERATOR

| TAZ  | NAME                       | TYPE         | KEY VARIABLE | VAR<br>AMOUNT | TRIP END FORMULA                                    | TRIPS  |
|------|----------------------------|--------------|--------------|---------------|-----------------------------------------------------|--------|
| 8001 | NY State Fairgrounds       | Not Modeled  | -            | -             | -                                                   | -      |
| 8002 | Destiny USA                | Key Variable | 000s sq ft   | 2,400         | $2.718^{(0.65 \cdot \text{LN}(\text{VAR}) + 5.83)}$ | 53,528 |
| 8003 | Onondaga Community College | Key Variable | Students     | 10,269        | $2.718^{(0.89 \cdot \text{LN}(\text{VAR}) + 1.24)}$ | 12,834 |
| 8004 | Van Duyn Home & Hospital   | Key Variable | Beds         | 882           | -                                                   | 5,591  |
|      | Van Duyn Home              | -            | Beds         | 526           | $(2.3 \cdot \text{VAR}) + 6.07$                     | -      |
|      | Community General Hospital | -            | Beds         | 356           | $(7.42 \cdot \text{VAR}) + 1733.31$                 | -      |
| 8005 | Loretto                    | Key Variable | Beds         | 820           | $(2.3 \cdot \text{VAR}) + 6.07$                     | 1,892  |
| 8006 | SU South Campus            | SIC Based    | -            | -             | -                                                   | 2,891  |
| 8007 | OnCenter                   | Key Variable | -            | -             | Trip-Ends * Share of Attractions                    | 23     |
| 8008 | OnCenter                   | Key Variable | -            | -             | Trip-Ends * Share of Attractions                    | 17,506 |
| 8009 | OnCenter                   | Key Variable | -            | -             | Trip-Ends * Share of Attractions                    | 3,453  |
|      | OnCenter                   | -            | Employees    | 2,615         | $7.75 \cdot \text{VAR}$                             | -      |
|      | OnCenter                   | -            | Employees    | 80            | $3.32 \cdot \text{VAR}$                             | -      |
|      | OnCenter                   | -            | Visitors     | 225           | $2 \cdot \text{VAR}$                                | -      |
| 8010 | Lemoyne College            | Key Variable | Students     | 3,533         | $(2.23 \cdot \text{VAR}) + 440$                     | 8,319  |
| 8011 | University Hill Hospitals  | SIC Based    | -            | -             | -                                                   | 40,703 |
| 8012 | Syracuse University        | Key Variable | Students     | 22,484        | $(2.23 \cdot \text{VAR}) + 440$                     | 50,579 |
| 8013 | Carrier Dome               | Not Modeled  | -            | -             | -                                                   | -      |
| 8014 | St. Joe's Hospital         | Key Variable | Beds         | 451           | $(7.42 \cdot \text{VAR}) + 1733.31$                 | 5,080  |
| 8015 | NBT Bank Stadium           | Not Modeled  | -            | -             | -                                                   | -      |
| 8016 | Hancock Airport            | Key Variable | Employees    | 1,300         | $18.1 \cdot \text{VAR}$                             | 23,530 |



Table 26 summarizes the motorized trip productions and attractions in the special generator TAZs.

**TABLE 26: SPECIAL GENERATOR PRODUCTIONS AND ATTRACTIONS**

| TAZ       | SPECIAL GENERATOR          | PRODUCTIONS | ATTRACTIONS |
|-----------|----------------------------|-------------|-------------|
| 8001      | NY State Fairgrounds       | (SE)        | (SE)        |
| 8002      | Destiny USA                | 13,566      | 39,963      |
| 8003      | Onondaga Community College | 4,323       | 8,511       |
| 8004      | Van Duyn Home & Hospital   | 541         | 5,050       |
| 8005      | Loretto                    | 622         | 1,816       |
| 8006      | SU South Campus            | 5,349       | 2,891       |
| 8007-8009 | OnCenter                   | 3,833       | 17,149      |
| 8010      | Lemoyne College            | 4,409       | 3,910       |
| 8011      | University Hill Hospitals  | 16,867      | 40,703      |
| 8012      | Syracuse University        | 9,303       | 42,276      |
| 8013      | Carrier Dome               | (SE)        | (SE)        |
| 8014      | St. Joe's Hospital         | 325         | 4,755       |
| 8015      | NBT Bank Stadium           | (SE)        | (SE)        |
| 8016      | Hancock Airport            | 5,285       | 18,245      |

(SE): Special Event locations that are not included in a model run that represents a typical day

## 6.6 | EXTERNAL TRIPS

Trips can be categorized based on whether both the origin and destination are internal to the model region, or whether the trip has an external trip end. External trips can be classified as internal-to-external (IX), external-to-internal (XI), and external-to-external (XX). In the SMTC model, IX and XI trips are classified as being HBW, HBS, HBO, or NHB, and are treated no differently from internal-to-internal (II) trips in model distribution. XX trips, on the other hand, are modeled as a fifth trip purpose and have a fixed distribution.

In the base year, the total IX, XI and XX trips are set to match base year traffic count data at the 68 external stations (shown in Figure 13). The percentage of XX trips is derived in large part from an external license plate survey conducted as part of the I-81 Corridor Study<sup>5</sup>. The license plate survey recorded and matched vehicles at several locations on the interstate network to identify whether they were passing through the region or destined for a location

<sup>5</sup> See Draft Final Technical Memorandum #1: Physical Conditions Analysis, pp 2-25 to 2-31, available at: [http://thei81challenge.org/cm/ResourceFiles/resources/Technical\\_Memorandum\\_s.pdf](http://thei81challenge.org/cm/ResourceFiles/resources/Technical_Memorandum_s.pdf)



inside the region (however, the survey did not capture I-90 pass through trips). The remaining external trips are split among IX and XI trips based on traffic count data. Base year IX and XI trips are set to match base year traffic count data (less XX trips) at the external stations. Future year external trips are assumed to grow annually at a rate of 0.5% per year, based on historical growth rates calculated using NYSDOT traffic count data.

## 6.7 | TRIP BALANCING

It is common practice in transportation modeling to balance attractions to productions. The rationale is that productions are more fundamental. More housing will produce more trips; more retail space, for example, may simply draw customers from other retail space.

This practice has important implications for using the model to analyze regional traffic impacts emanating from changes in employment land use. For example, if traffic impacts of a proposed major employer are to be analyzed, the projected amount of new employment must be inserted into appropriate TAZ in the socioeconomic database. These new jobs will attract new trips. However, without also increasing by some amount the number of residences in the region, no net increase in trips will result. Thus, these types of scenarios must be carefully considered as to their employment and residential impacts in order for the model to lend proper insight into transportation implications.

Incorporating special generator attraction rates introduces some complexity to the balancing calculations. Balancing adjustment factors are calculated for each of the trip purposes. It is not desirable to factor the special generator attractions because they are based on location specific traffic counts that reflect the unique trip making characteristics of the land use. Therefore, only attractions that are not special generators are factored in the balancing process. The following general formula is used to calculate the balancing factors for each trip type:

$$\text{Balancing Adjustment Factor} = (\text{Productions} - \text{Special Generator Attractions}) / (\text{Non Special Generator Attractions})$$

For NHB trips, where the connection to home-based productions is less obvious, the destination trip end (an attraction) is balanced to the origin trip end (a production) and then productions are set equal to attractions in each TAZ.

## 6.8 | TRIP GENERATION SUMMARY

Table 27 summarizes the number of motorized trips produced by trip purpose inside the SMTC model region for the 2017 base year, and those produced externally to the SMTC model region but attracted to locations inside the SMTC model region. External-to-external travel is not included in this table (see Section 6.6 |), nor is non-motorized travel (see Section 6.4 |).



**TABLE 27: INTERNAL AND EXTERNAL TRIPS BY PURPOSE**

| PURPOSE      | INTERNAL TRIPS | % TRIPS |
|--------------|----------------|---------|
| HBW          | 324,643        | 16%     |
| HBS          | 314,446        | 15%     |
| HBO          | 606,680        | 29%     |
| NHB          | 540,395        | 26%     |
| L_COMM       | 18,195         | 1%      |
| M_COMM       | 8,364          | 0%      |
| H_COMM       | 4,362          | 0%      |
| IX           | 112,438        | 5%      |
| XI           | 114,642        | 6%      |
| XX           | 29,386         | 1%      |
| ALL PURPOSES | 2,073,549      | 100%    |



## 7.0 NETWORK SKIMMING

Network skimming is the model process that traces the shortest path (highway skims) or composite path (transit skims) between every TAZ pair, and then writes out the quantity of key attributes, such as travel times, costs, and distances, “skimmed” between each TAZ. These “skims” are used in the trip distribution (highway skims only) and mode choice models.

### 7.1 | HIGHWAY NETWORK SKIMMING

The highway skims are built by minimizing a simple “generalized cost” formula, a metric that accounts for the out-of-pocket costs (tolls), implied costs (travel times, operating expenses) and biases (turn penalties) that are incurred in traveling between each TAZ pair.

#### AUTO GENERALIZED COST

The formula for auto generalized cost is presented in Figure 16. Because in-vehicle travel time varies by model period, the generalized cost equation is solved four times, once for each of the model periods (AM, MD, PM, OP). The asserted value of time, used to convert monetary values to time values in the generalized cost calculation, is \$20/hour.

**FIGURE 16: AUTO GENERALIZED COST**

$$GC = IVT + OVT + .6 * DIST + 6 * TOLL + TP$$

Where: GC = Generalized Cost (minutes)

IVT = In-Vehicle Time (minutes)

OVT = Out-of-Vehicle Time (minutes)

Dist = Distance (miles)

Toll = Toll fare (dollars)

TP = Turning penalties

Value of Time = \$20/hour

Operating Cost = \$.19/mile

#### **Tolls**

The SMTc network features one toll road, I-90. The assumed toll rate along I-90 is \$.048/mile, based on an average of the per mile rate of exit to exit tolls charged on I-90.

#### **Operating Costs**

The assumed average auto operating cost is \$.19/mile and represents just fuel costs and not long term costs such as vehicle costs or maintenance costs. In reality, operating cost varies depending on speed and acceleration/deceleration, fluctuations in gas costs, and variations in vehicle fuel economy from vehicle to vehicle, but basing operating cost only on distance is a



reliable simplification and helps bias the model towards picking more direct paths with fewer turns.<sup>6</sup>

### ***In-Vehicle Travel Times***

In the first iteration of the model, the in-vehicle times for all four generalized cost equations (AM, MD, PM, OP) is assumed to be the free-flow travel times. After the first iteration, in-vehicle travel times vary by time period depending on the results of the assignment model. Section 11.0 explains how these congested travel times are calculated.

### ***Out-of-Vehicle Travel Times***

An auto walk access/egress time is assumed for each TAZ. TAZs located in the downtown or University Hill area of Syracuse are assumed to have 3 minute access/egress times and all other TAZs are assumed to have 1 minute access/egress times; for instance, a trip from outside of Syracuse to the downtown area would be assigned 4 minutes of total out-of-vehicle time. The out-of-vehicle time for trip-ends in the downtown or University Hill area is assumed to be greater than elsewhere in the region, because travelers to those areas may often need to park off-site and walk to their destination.

### ***Turning Penalties***

Turning penalties, as discussed in Section 4.1 |, are added are used to guide the model towards tracing a particular shortest path that tends to avoid excessive zigzagging movement. Although these turning penalties are expressed in minutes, they do not represent actual travel time and they are not added to the In-Vehicle Travel Time or Generalized Cost skims so as not to affect the results of the trip distribution or mode choice models. .

## **SKIMMED VARIABLES**

For each of the four time periods (AM, MD, PM, OP) the model creates the following skims:

- Distance
- Toll
- IVTT (In-Vehicle Travel Time)
- OVTT (Out-of-Vehicle Travel Time)
- Operating Cost
- Generalized Cost (where generalized cost does not include any biases such as turning penalties)

From these skims, a set of “work” and “non-work” skims, and a set of “peak” and “off-peak” skims are created for use in application where the work and non-work skims are used in the distribution model, and the peak and off-peak skims are used in the mode choice

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<sup>6</sup> For forecasting purposes, operating cost assumptions remain static, i.e. base year values are used in the future. Future forecasts of vehicle operating costs are uncertain, and the relationship between future vehicle operating costs, future household income, and resulting route choice behavior are sufficiently uncertain and complex to make any adjustments for forecasting unsupportable.



model. However, at this time, the work and peak skims are simply duplicates of the AM skim, and the non-work and off-peak skims are duplicates of the MD skim.

## 7.2 | TRANSIT NETWORK SKIMMING

The transit skims are built by minimizing a generalized cost formula, subject to a number of special constraints and the possibility of combining service across alternative routes to create a more favorable, composite path. The composite path (if one exists) is solved by Caliper's Pathfinder algorithm.

### TRANSIT GENERALIZED COST

The generalized cost formula used in creating the transit network is presented in Figure 17. The transit generalized cost formula uses a lower value of time (\$12/hour) than is used for highway generalized cost (\$20/hour) because transit users tend to have a lower income and are more sensitive to cost. The transit generalized cost formula also double weights OVT, which is the standard convention.

**FIGURE 17: TRANSIT GENERALIZED COST**

$$GC = IVT + 2 \cdot OVT + 7.5 \cdot FARE$$

GC = Generalized Cost

Where: (minutes)

IVT = In-Vehicle Time  
(minutes)

OVT = Out-of-Vehicle Time  
(minutes)

Fare = Transit Fare  
(dollars)

Value of Time = \$12/hour

#### ***In-Vehicle Travel Times***

Transit in-vehicle travel times are created by factoring up the auto in-vehicle times. The model does not explicitly assume a dwell time at each stop or model deceleration/acceleration when visiting stops, so these factors are needed to decrease the average speed of the transit service. Local bus service is assumed to travel at 60% of the auto speed, and express bus service is assumed to travel at 95% of the auto speed, as explained in Section 5.2 |.

#### ***Out-of-Vehicle Travel Times***

The out-of-vehicle time in the transit network is composed of:

Walk access time  
Initial wait time



(Possible) Transfer walk and wait times  
Walk egress time

The wait times are calculated by taking 50% of the route headway, subject to a few constraints (see section 5.2 | ). Out-of-vehicle times are all double-weighted to account for the fact that out-of-vehicle time is perceived as more onerous to riders than in-vehicle time.

### Fare

Transit fares are discussed in section 5.2 | . However, because all transit fares were assumed to be \$1 with free transfer, at this point, fares do not have an impact on the transit skimming.

### PATH-FINDING PARAMETER CONSTRAINTS

The transit path-finding algorithm is subject to a number of constraints that may disallow certain paths or constrain attributes used in the generalized cost formula or written to the skims. The constraints are presented within Figure 18. For a path to be allowed by the model, the total travel time must be less than 180 minutes, there must be fewer than three transfers, and the walk access and egress times must be less than 20 minutes. Disallowing these paths ensures that the model will award zero trips to these paths instead of some small number.

The transit pathfinder puts a floor/ceiling on the range of values certain attributes can take on. In particular, the maximum wait time for a transit trip is 45 minutes and the minimum initial wait time is set to 2 minutes.

**FIGURE 18: TRANSIT PATH-FINDING PARAMETER CONSTRAINTS**

| PARAMETER         | VALUE          | UNITS     |
|-------------------|----------------|-----------|
| Max Xfers         | 2              |           |
| Value of Time     | .133           | \$/Minute |
| Flat Fare         | 1              | \$        |
| Xfer Cost         | 0              | \$        |
| Weighting Factors |                |           |
| Fare              | 1              |           |
| Link Time         | 1              |           |
| Init Wait Time    | 2              |           |
| Xfer Wait Time    | 2              |           |
| Dwell Time        | 0              |           |
| Walk Time         | 2              |           |
| Headway           | Route Specific | Minutes   |



| PARAMETER              | VALUE | UNITS   |
|------------------------|-------|---------|
| Max Init Wait Time     | 45    | Minutes |
| Max Xfer Wait Time     | 45    | Minutes |
| Min Init Wait Time     | 2     | Minutes |
| Min Xfer Wait Time     | 0     | Minutes |
| Dwelling Time          | 0     | Minutes |
| Max Access Walk Time   | 20    | Minutes |
| Max Egress Walk Time   | 20    | Minutes |
| Max Total Time         | 180   | Minutes |
| Park and Ride          | No    |         |
| Interarrival Parameter | 0.5   |         |
| Path Threshold         | 0     |         |

## **PATHFINDER**

Pathfinder is the route-building algorithm developed by Caliper to solve for composite, transit paths where having several options for how to go from A to B would allow the transit user to pick the first available service, and reduce average wait times. In the SMTTC transit model, the “combination factor” parameter is set to 0, the minimum level, where a composite path will be created only if there are two or more equally fast paths (i.e. there is more than one, single “best path”). The skims generated from composite paths have reduced wait times according to their combined headway.



## 8.0 TRIP DISTRIBUTION

Trip distribution is the pairing of productions and attractions to form complete trips. The pairing is done separately within each trip purpose. For example, HBW productions from residences are paired with HBW attractions at work places. The trip distribution within a trip purpose is done using a gravity model. The concept underlying a gravity model is that trip end locations that are closer together will exhibit a stronger attraction than those that are farther apart, and that trip end locations with higher trip generation will be more attractive than trip end locations with lower trip generation.

### 8.1 | GRAVITY MODEL

The functional form of the distribution model is shown in Figure 19. The model uses a doubly constrained gravity model for the HBW and commercial trip purposes and a singly constrained gravity model for the HBS, HBO, and NHB trip purposes, as well as IX and XI externals.

To doubly-constrain a trip distribution an iterative process is used that alternatively balances productions by evaluating the first equation and then balances to attractions by evaluating the second equation. This function is applied separately for each of the trip types.

**FIGURE 19: GRAVITY MODEL FUNCTIONAL FORM**

$$T_{ij} = P_i * \frac{A_j * f(d_{ij})}{\sum_{\text{all zones } z} A_z * f(d_{iz})} \quad (\text{Constrained to Productions})$$

$$T_{ij} = A_j * \frac{P_i * f(d_{ij})}{\sum_{\text{all zones } z} P_z * f(d_{iz})} \quad (\text{Constrained to Attractions})$$

Where:

|             |   |                                                                  |
|-------------|---|------------------------------------------------------------------|
| $T_{ij}$    | = | the forecast flow produced by zone $i$ and attracted to zone $j$ |
| $P_i$       | = | the forecast number of trips produced by zone $i$                |
| $A_j$       | = | the forecast number of trips attracted to zone $j$               |
| $d_{ij}$    | = | the impedance between zone $i$ and zone $j$                      |
| $f(d_{ij})$ | = | the friction factor between zone $i$ and zone $j$                |

The inputs to trip distribution include productions and attractions by TAZ, and a generalized cost impedance matrix representing the cost of travel between each pair of TAZs. The impedance is used in the trip distribution model to estimate friction factors, which represent the impact of travel time on the likelihood of travel and are calibrated so that observed trip lengths and times are reasonable and match patterns in survey data. Observed trip length distributions were estimated using 2004 SMTC Household Travel Survey.

The friction factor equations take the form shown in Figure 20, with the estimated parameter values shown in



Table 28 and are plotted in Figure 21, with the values scaled between 0 and 1 to be comparable across trip purposes. HBW trips tend to be longer than NHB, HBO, or HBS trips, and this is reflected in the calibrated friction factors.

**FIGURE 20: FRICTION FACTOR FUNCTIONAL FORM**

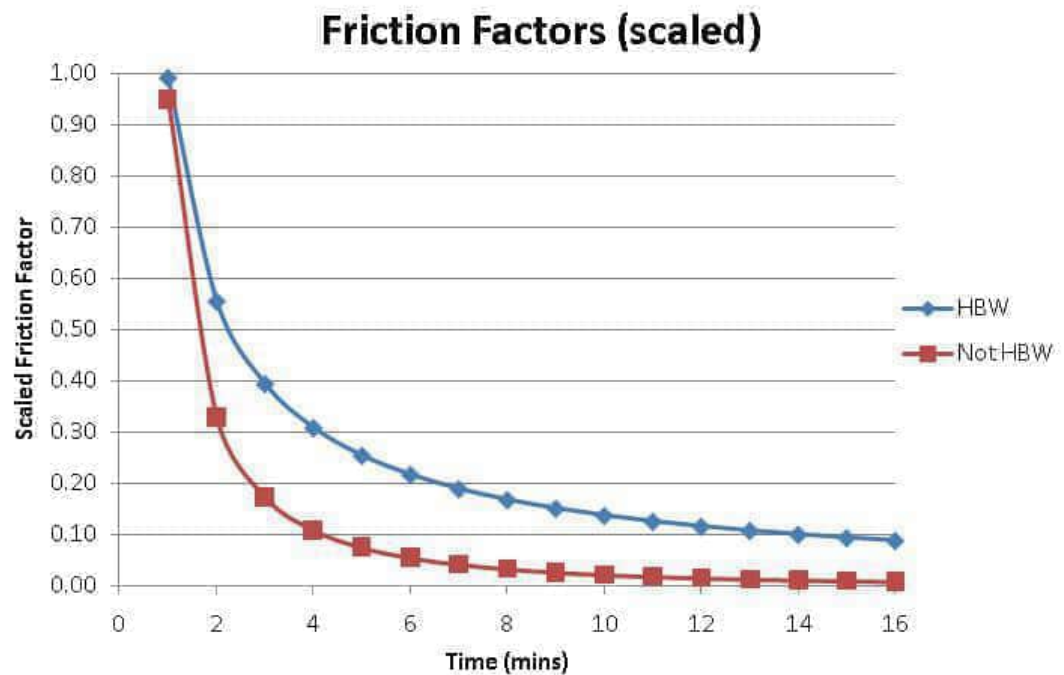
$$f(d_{ij}) = \frac{a}{d_{ij}^b * e^{c(d_{ij})}}$$

Where:  $f(d_{ij})$  = the friction factor between zone  $i$  and zone  $j$   
 $d_{ij}$  = the impedance between zone  $i$  and zone  $j$   
 $a, b, c$  = constants derived for each trip type to replicate survey data

**TABLE 28: ESTIMATED FRICTION FACTOR PARAMETERS**

| TRIP TYPE | A       | B     | C     |
|-----------|---------|-------|-------|
| HBW       | 28,507  | 0.823 | 0.010 |
| HBS       | 139,173 | 1.456 | 0.052 |
| HBO       | 139,173 | 1.456 | 0.052 |
| NHB       | 139,173 | 1.456 | 0.052 |

**FIGURE 21: FRICTION FACTORS CURVES BY TRIP PURPOSE**





## 8.2 | EXTERNAL TRIPS

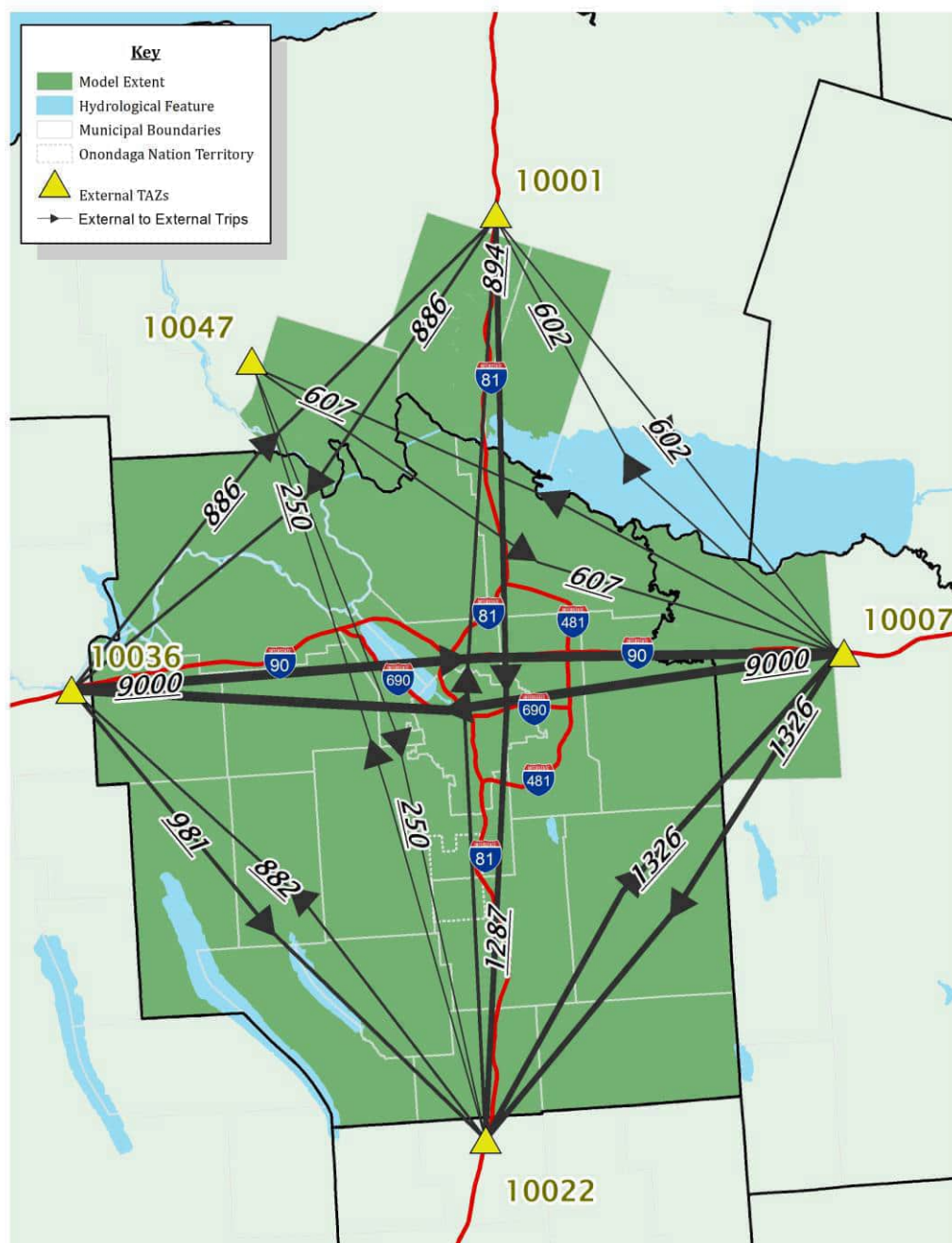
The distribution of external-to-external trips is input to the model as a fixed trip table. Major externals – I-81 North and South, the New York State Thruway East and West, and Route 481 – have any external-to-external trips. Table 29 and Figure 22 show the flow of external-to-external trips. As part of the recent I-81 planning effort, NYSDOT conducted a pass through study, using license plate capture at several locations on the Interstate Highway system, to identify the number of trips passing through the area using I-81. The results of this study were used during the development of the external-to-external trip table.

**TABLE 29: EXTERNAL-TO-EXTERNAL TRIPS**

| EXTERNAL ORIGIN TAZ | ORIGIN HIGHWAY | EXTERNAL DESTINATION TAZ | DESTINATION HIGHWAY | AM TRIPS     | PM TRIPS     | DAILY TRIPS   |
|---------------------|----------------|--------------------------|---------------------|--------------|--------------|---------------|
| 10001               | I-81 (N)       | 10007                    | I-90 (E)            | 35           | 43           | 602           |
| 10001               | I-81 (N)       | 10022                    | I-81 (S)            | 75           | 92           | 1,287         |
| 10001               | I-81 (N)       | 10036                    | I-90 (W)            | 52           | 63           | 886           |
| 10007               | I-90 (E)       | 10001                    | I-81 (N)            | 35           | 43           | 602           |
| 10007               | I-90 (E)       | 10022                    | I-81 (S)            | 78           | 95           | 1,326         |
| 10007               | I-90 (E)       | 10036                    | I-90 (W)            | 526          | 644          | 9,000         |
| 10007               | I-90 (E)       | 10047                    | Route 481           | 35           | 43           | 607           |
| 10022               | I-81 (S)       | 10001                    | I-81 (N)            | 52           | 64           | 894           |
| 10022               | I-81 (S)       | 10007                    | I-90 (E)            | 78           | 95           | 1,326         |
| 10022               | I-81 (S)       | 10036                    | I-90 (W)            | 52           | 63           | 882           |
| 10022               | I-81 (S)       | 10047                    | Route 481           | 15           | 18           | 250           |
| 10036               | I-90 (W)       | 10001                    | I-81 (N)            | 52           | 63           | 886           |
| 10036               | I-90 (W)       | 10007                    | I-90 (E)            | 526          | 644          | 9,000         |
| 10036               | I-90 (W)       | 10022                    | I-81 (S)            | 57           | 70           | 981           |
| 10047               | Route 481      | 10007                    | I-90 (E)            | 35           | 43           | 607           |
| 10047               | Route 481      | 10022                    | I-81 (S)            | 15           | 18           | 250           |
| <b>TOTAL</b>        |                |                          |                     | <b>1,718</b> | <b>2,102</b> | <b>29,386</b> |



FIGURE 22: EXTERNAL-TO-EXTERNAL TRIPS





## 9.0 MODE SPLIT

The mode choice model estimates the fraction of person-trips between each origin and destination that use public transit vs. auto. Auto trips are then converted to vehicle-trips using an auto occupancy factor and the resulting auto vehicle-trips are loaded onto the highway network.

The split of person-trips among modes is estimated using a logit model. A logit model is shown in Figure 23. The share of trips using each mode in the mode choice model is a function of the relative attractiveness of each mode. The attractiveness of each mode is a function of the characteristics of the mode and the preferences of different travelers.

**FIGURE 23: EXAMPLE LOGIT MODEL**

$$\text{Transit Mode Share} = \frac{1}{1 - e^{(V_{\text{auto}} - V_{\text{transit}})}}$$

$$\text{Auto Mode Share} = 1 - \text{Transit Share}$$

Where:  $V_{\text{auto}} = f(\text{auto service, traveler attributes})$

$V_{\text{transit}} = f(\text{transit service, traveler attributes})$

The utility functions (Vs) in this equation can contain mode-specific travel time, cost and access variables as well as traveler-specific variables, each multiplied by parameters.

The multinomial logit model is an extension of this form that allows comparisons among more than two alternative modes. A further extension, the nested logit model allows for differential competition among modes. A multinomial logit model assumes that each alternative mode draws in fixed proportions from all other alternatives. This is an appropriate assumption when the alternatives are substantially unique but becomes less appropriate when subsets of the alternatives have important shared attributes.

The SMTC mode choice model is not estimated from survey data as survey data of the type typically used to estimate mode choice models, such as a transit on-board origin-destination survey coupled with a stated preference survey taken by transit riders, are not available. Instead, it is asserted based on professional judgment and experience estimating mode choice models in dozens of U.S. cities. The parameters are consistent with FTA guidance and are defensible representations of mode choice behavior. The mode choice model is calibrated to match the observed regional shares of trips between transit and auto.

The mode split macro skims the network for the optimal path in each mode. In the current version of the model, this includes an auto path and a bus path. The mode skims are then input to the mode split model and the trips are divided among the available modes. The auto and bus skimming process are described in Section 7.0.

The utility equations used in the mode choice model are shown in Figure 24 and the mode choice model parameters are shown in Table 30.



**FIGURE 24: MODE CHOICE MODEL UTILITY EQUATIONS**

$$V_i = \alpha + \beta_1 * \text{WalkTime} + \beta_2 * \text{IVTT} + \beta_3 * \text{OVTT} + \beta_4 * \text{OperatingCost} + \beta_5 * \text{Xfer} + \beta_6 * \text{EmpDens} + \beta_7 * \text{CBD}$$

$i$  = auto, bus

WalkTime = walk time (minutes)

IVTT = in-vehicle time (minutes)

OVTT = out-of-vehicle time (minutes)

OperatingCost = auto operating cost (minutes)

Xfer = number of transit transfers

EmpDens = employment density (employees/square mile)

CBD = indication of central business district (1 = CBD)

**TABLE 30: MODE CHOICE MODEL COEFFICIENTS**

|            |             | $\alpha$ | $\beta_1$ | $\beta_2$ | $\beta_3$ | $\beta_4$ | $\beta_5$ | $\beta_6$ | $\beta_7$ |
|------------|-------------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| <b>HBW</b> | Non-Motor   | -0.95    | -0.04     | -         | -         | -         | -         | 0.00002   | 0.3       |
|            | Motor       | -        | -         | -0.03     | -0.06     | -0.03     | -         | -         | -         |
|            | Auto<br>Bus | -0.90    | -         | -0.03     | -0.06     | -0.003    | -0.3      | 0.00002   | 0.1       |
| <b>HBS</b> | Non-Motor   | -1.75    | -0.04     | -         | -         | -         | -         | 0.00002   | 0.3       |
|            | Motor       | -        | -         | -0.02     | -0.04     | -0.02     | -         | -         | -         |
|            | Auto<br>Bus | -2.70    | -         | -0.02     | -0.04     | -0.003    | -0.2      | 0.00002   | 0.1       |
| <b>HBO</b> | Non-Motor   | -1.75    | -0.04     | -         | -         | -         | -         | 0.00002   | 0.3       |
|            | Motor       | -        | -         | -0.02     | -0.04     | -0.02     | -         | -         | -         |
|            | Auto<br>Bus | -2.70    | -         | -0.02     | -0.04     | -0.003    | -0.2      | 0.00002   | 0.1       |
| <b>NHB</b> | Non-Motor   | -2.10    | -0.04     | -         | -         | -         | -         | 0.00002   | 0.3       |
|            | Motor       | -        | -         | -0.02     | -0.04     | -0.02     | -         | -         | -         |
|            | Auto<br>Bus | -2.70    | -         | -0.02     | -0.04     | -0.003    | -0.2      | 0.00002   | 0.1       |

The auto person-trips calculated by the mode choice model are converted to auto vehicle-trips using the occupancy factors shown in Table 31. These rates were informed by the 2004 Household Survey and the 2009 NHTS.

**TABLE 31: AUTO OCCUPANCY FACTORS BY TRIP PURPOSE**

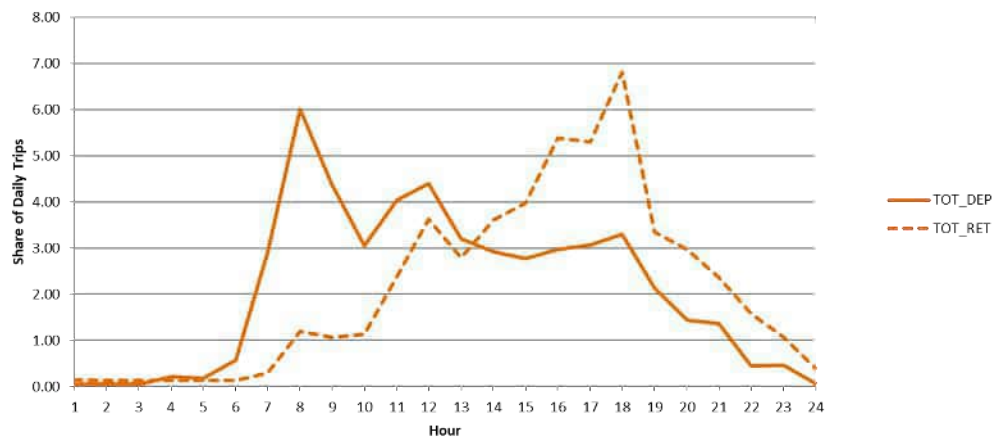
| TRIP PURPOSE | AVERAGE AUTO OCCUPANCY |
|--------------|------------------------|
| HBW          | 1.05                   |
| HBS          | 1.25                   |
| HBO          | 1.75                   |
| NHB          | 1.50                   |



## 10.0 DIURNAL DISTRIBUTION

The trip generation, trip distribution and mode split models estimate daily trips. The traffic assignment model then assigns traffic for each hour. Trips from each trip purpose are allocated to each time period based on time-of-day factors derived from the 2004 SMTC Household Travel Survey (and adjusted to more closely match observed traffic counts and following comparison to the 2001 and 2009 NHTS data). For home-based trips, the time-of-day (diurnal) distribution is unique by direction (e.g. home-to-work vs. work-to-home), but for NHB trips the directionality of the trip matrix does not vary by time of day. The estimated diurnal distribution for all trips is shown in Figure 25. Figures 27-30 show the same information by trip purpose. “DEP” stands for departing trips and implies trips from the production TAZ (home for home-based trips) to the attraction TAZ. Conversely, “RET” stands for returning trips (from attraction to production).

**FIGURE 25: DIURNAL DISTRIBUTION FOR ALL TRIPS**



**FIGURE 26: DIURNAL DISTRIBUTION OF HOME-BASED WORK (HBW) TRIPS**

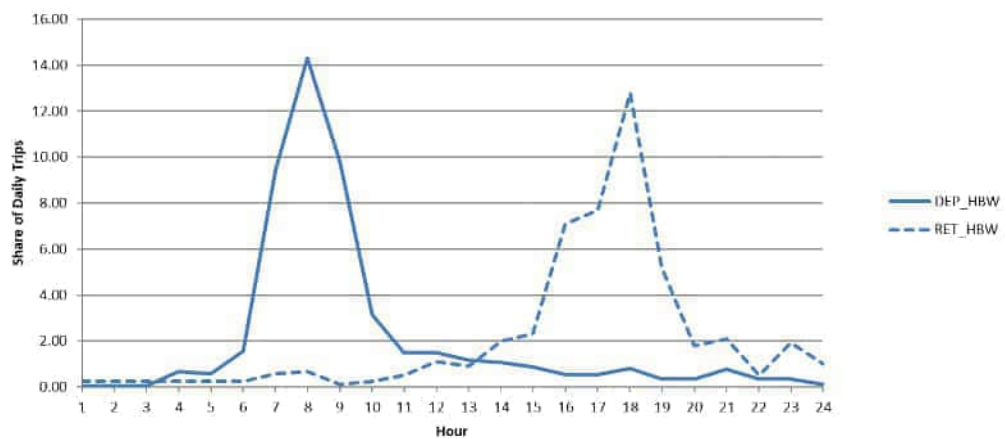




FIGURE 27: DIURNAL DISTRIBUTION OF HOME-BASED SHOPPING (HBS) TRIPS

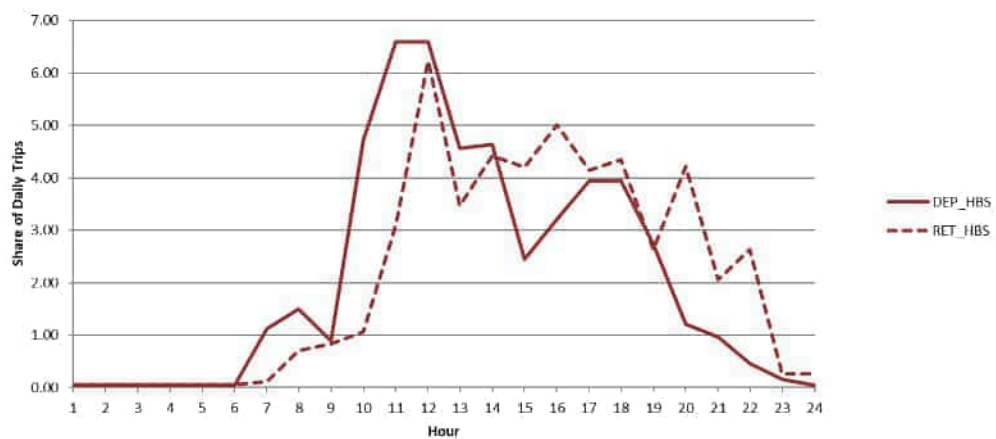


FIGURE 28: DIURNAL DISTRIBUTION OF HOME-BASED OTHER (HBO) TRIPS

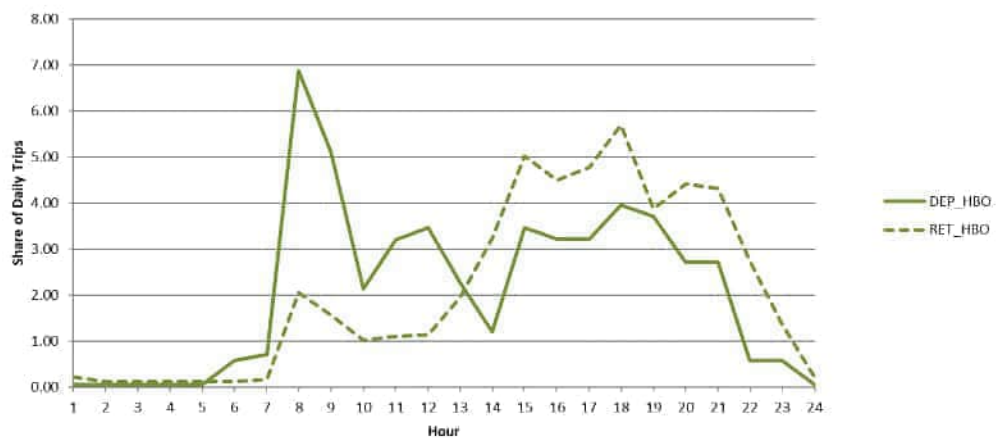
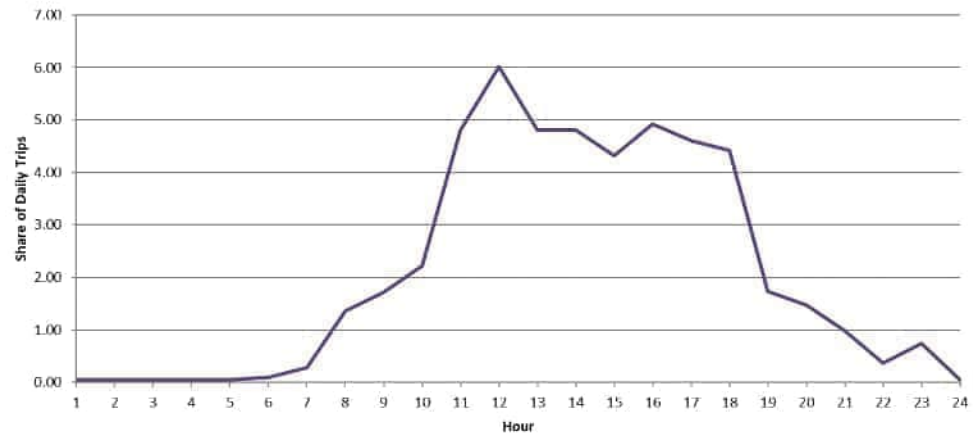




FIGURE 29: DIURNAL DISTRIBUTION OF NHB TRIPS





## 11.0 HIGHWAY ASSIGNMENT

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The purpose of the assignment model is to locate a specific route along links and through intersections for every vehicle trip. The vehicle-trips calculated in the mode split model, which are in the form of an origin/destination matrix, are "assigned" to the network based on a user equilibrium model. The user equilibrium model is an iterative process that finds a convergent solution in which no travelers can improve their travel times by switching to another route.

The assignment model includes travel delay from five sources:

- Volume-Dependent Link Delay – calculated using volume-delay functions described below.
- Volume-Dependent Node Delay – calculated using volume-delay functions described below.
- Global Turn Penalties – specified as 10 seconds per left turn and 5 seconds for right turns. U-turns are prohibited.
- Facility Type Penalties – specified in seconds for ramp access from arterials, collectors, and locals to reduce the number of very short trips routed via interstates/freeways.
- Specific Turn Prohibitions – these are specified in the Turn Penalty Table.

The model was calibrated to 2014 daily traffic conditions. The assignment calibration is assessed based on how accurately the model output link volumes match observed traffic counts and speeds by direction and time of day. Calibration of the assignment model involves adjusting the delays for turning movements and on links.

The volume-delay function used in the SMTTC model estimates both link and node delay. The function equations are shown in



Figure 30. Table 33 shows the volume-delay function parameters for interstates/freeways and all other roads. The parameters are the values that, when entered into the equations of the volume-delay function, affect its shape and hence the relationship between traffic volume and the amount of delay. Interstates/freeways operate very differently in traffic flows terms than other types of road, and in particular intersection delay is not a meaningful concept and speeds fall more slowly as volume to capacity ratios increase.



**FIGURE 30: SMTC MODEL VOLUME-DELAY FUNCTION EQUATIONS**

$$d = D_l + I_l$$

$$D_l = t_0 \cdot c_1 \left[ \frac{1}{1 - \frac{c_2}{1 + \exp\left(c_3 - c_4 \cdot \frac{x}{C}\right)}} \right]$$

Where:

$D_l$  = link delay

$t_0$  = free – flow travel time

$x$  = traffic flow

$C$  = link capacity

$c_1, c_2, c_3, c_4$  = link parameters

$$I_l = d_0 \cdot p_1 \left[ 1 + \frac{p_2}{1 + \exp\left(p_3 - p_4 \cdot \frac{x}{X}\right)} \right]$$

Where:

$I_l$  = node delay

$d_0$  = free – flow travel time

$x$  = traffic flow

$X$  = node capacity

$p_1, p_2, p_3, p_4$  = node parameters

**TABLE 32: VOLUME-DELAY FUNCTION PARAMETERS**

| Facility Type      | LINK PARAMETERS |       |     |     | NODE PARAMETERS |     |    |    |
|--------------------|-----------------|-------|-----|-----|-----------------|-----|----|----|
|                    | C1              | C2    | C3  | C4  | P1              | P2  | P3 | P4 |
| Local              | 0.9526          | 1     | 3   | 3   | 0.04046         | 500 | 3  | 3  |
| Centroid Connector | 0.9526          | 1     | 3   | 3   | 0.04046         | 500 | 3  | 3  |
| Low Capacity Ramp  | 0.9526          | 1     | 3   | 3   | 0.04046         | 500 | 3  | 3  |
| High Capacity Ramp | 0.9526          | 1     | 3   | 3   | 0.04046         | 500 | 3  | 3  |
| Minor Collector    | 0.9526          | 1     | 3   | 3   | 0.04046         | 500 | 3  | 3  |
| Major Collector    | 0.9526          | 1     | 3   | 3   | 0.04046         | 500 | 3  | 3  |
| Minor Arterial     | 0.9526          | 1     | 3   | 3   | 0.04046         | 500 | 3  | 3  |
| Principal Arterial | 0.9526          | 1     | 3   | 3   | 0.04046         | 400 | 3  | 3  |
| Interstate/Freeway | 1.0000          | 0.975 | 6.5 | 6.3 | -               | -   | -  | -  |



## 12.0 TRANSIT ASSIGNMENT

---

The transit assignment model tabulates the number of riders using each stop and route. Unlike highway assignment, transit assignment is not formally constrained by a capacity, and therefore, the transit routing computed between each TAZ pair during the transit skimming procedure (see section 7.2 |) is imitated in assignment. The SMTC transit assignment model relies on Caliper’s “pathfinder” algorithm, the compatible assignment algorithm to that used in skimming, and for cases where pathfinder built a composite path between TAZ pairs in skimming, the trips are apportioned among the alternative routes based on the ratio of headway times.



## 13.0 FEEDBACK AND MODEL CONVERGENCE

The model is converged if and only if the outputs are consistent with the inputs. This means that the congested travel times coming out of assignment must be consistent with the travel times that were used in trip distribution. Because the SMTC model starts “cold” and uses free-flow times in the first pass of trip distribution, it is expected that assignment travel times will look slower than those used in trip distribution. To account for this discrepancy, the assignment travel times are used to create new congested skims for trip distribution. However, this is not the end of the process. Because the first pass of trip distribution used free-flow times, each destination appeared unrealistically accessible, leading to too much VMT and slow travel times on the highway. Therefore, the assignment travel times sent to the second pass of distribution are expected to make destinations appear too inaccessible. In turn, this leads to lower VMT on the highway and faster travel times in the second round of assignment. Continuing this feedback process indefinitely leads to oscillating VMT and travel times, but with each subsequent loop, the absolute change decreases. Eventually, the absolute change is judged to be small enough where the model has reached equilibrium.

### 13.1 | MSA FEEDBACK

The SMTC model follows the method of successive averages (MSA) process of feedback where new travel times are calculated by applying the volume-delay function to an unweighted average of volumes from each assignment iteration (see Figure 31). Because the weight of the next assignment run is inversely proportional to the number of iterations, the new travel times change less and less, and convergence will be reached in a finite amount of time.

**FIGURE 31: MSA FEEDBACK**

$$\text{MSAFLOW}_N = \text{MSAFLOW}_{N-1} + (1/N) * (\text{FLOW}_N - \text{MSAFLOW}_{N-1})$$

where:

$n$  = current MSA iteration number

$\text{MSAFlow}_n$  = calculated MSA flow at iteration  $n$

$\text{Flow}_n$  = resulting flow directly from trip assignment



## 13.2 | FEEDBACK CRITERIA

Some of the symptoms of an unconverged model include: fluctuations in travel times and in VHT, fluctuations in assignment volumes and in VMT, and fluctuations in trip tables between subsequent iteration. The SMTC model includes tight overall assignment convergence criteria including a global convergence criterion of 0.000001 and a maximum of 500 iterations. While this adds to model runtimes it ensures a convergence is reached. Additionally, the SMTC model performs a link volume convergence check for each time period during the DA Feedback loop. Within this loop, at least 98% of link volumes must change by less than 1% between loop iterations. This test is run for each assignment period.



## 14.0 FUTURE YEAR MODELS

The future year models use the same structure and parameters as the base year model, but several of the inputs are updated. The adjusted inputs include the highway network, socioeconomic data for TAZs, demand for special generator TAZs, external demand to/from internal TAZs, and external demand to/from other external TAZs.

The focus of the future modeling was on creating reasonable inputs for a 2050 horizon year. Once the 2050 inputs were created, weighted interpolations/extrapolations of the 2017 to 2050 data were developed to build assumptions for two other future years: 2030 and 2040 .

### 14.1 | HIGHWAY NETWORKS

The future year highway network includes projects that are suggested (i.e. included in the SMTC LRTP, or otherwise programmed by NYSDOT, Onondaga County, or other municipalities) to be built before 2050. Projects that are coded in future year networks are presented in Table 33. The table indicates which future year scenario the project first appears in. Most of the projects involved changes to network and network attributes, such as a change in the number of lanes, and edits to the node types to reflect intersection improvements.

**TABLE 33: FUTURE YEAR NETWORK PROJECTS**

| Project                                                                | Year |
|------------------------------------------------------------------------|------|
| Route 370 at John Glenn Blvd intersection improvements                 | 2030 |
| Onondaga Lake Parkway safety improvements                              | 2030 |
| Reconstruct Rt 11 at Rt 49 intersection                                | 2030 |
| NY 31 at Thompson Rd and South Bay Rd intersection improvements        | 2030 |
| Route 481 NB Off-Ramp at Circle Drive                                  | 2030 |
| Caughdenoy Rd and NY 31 improvements                                   | 2030 |
| Buckley Road from Hopkins Rd to Taft Rd Improvements                   | 2030 |
| N, S, E, W corridors interconnect expansion                            | 2030 |
| CENTRO Change in future peak and off-peak headways                     | 2030 |
| CENTRO New express transit route along I81                             | 2030 |
| CENTRO Two new BRT routes with identified stops                        | 2030 |
| I-81 Interchange at Rt 31                                              | 2040 |
| Intersection improvements at NY 5 and NY 257                           | 2040 |
| Buckley Rd shared turn lane and Buckley at Bear intersection upgrades  | 2040 |
| 7th North Street at Buckley Rd intersection upgrades                   | 2040 |
| James Street three lane cross section from State to Grant and Shotwell | 2040 |
| Conversion of downtown streets to 2-way                                | 2040 |
| Roundabout at James and Shotwell/Grant                                 | 2040 |
| Water St closure                                                       | 2040 |



## 14.2 | SOCIOECONOMIC DATA

The development of 2050 socioeconomic data was discussed in sections 3.3 | (households and population) and 3.4 | (employment).

## 14.3 | SPECIAL GENERATORS

For special generators that relied on a hand-selected ITE formula in base year estimation (see Table 25), the 2050 attractions were estimated by growing the key variable by the same percentage that total employees grew between 2017 and 2050 and reapplying the ITE formula. The attractions for other special generators were estimated based on projected growth in employment totals. Table 34 presents the 2050 motorized productions and attractions.

**TABLE 34: 2050 SPECIAL GENERATOR MOTORIZED PRODUCTIONS AND ATTRACTIONS**

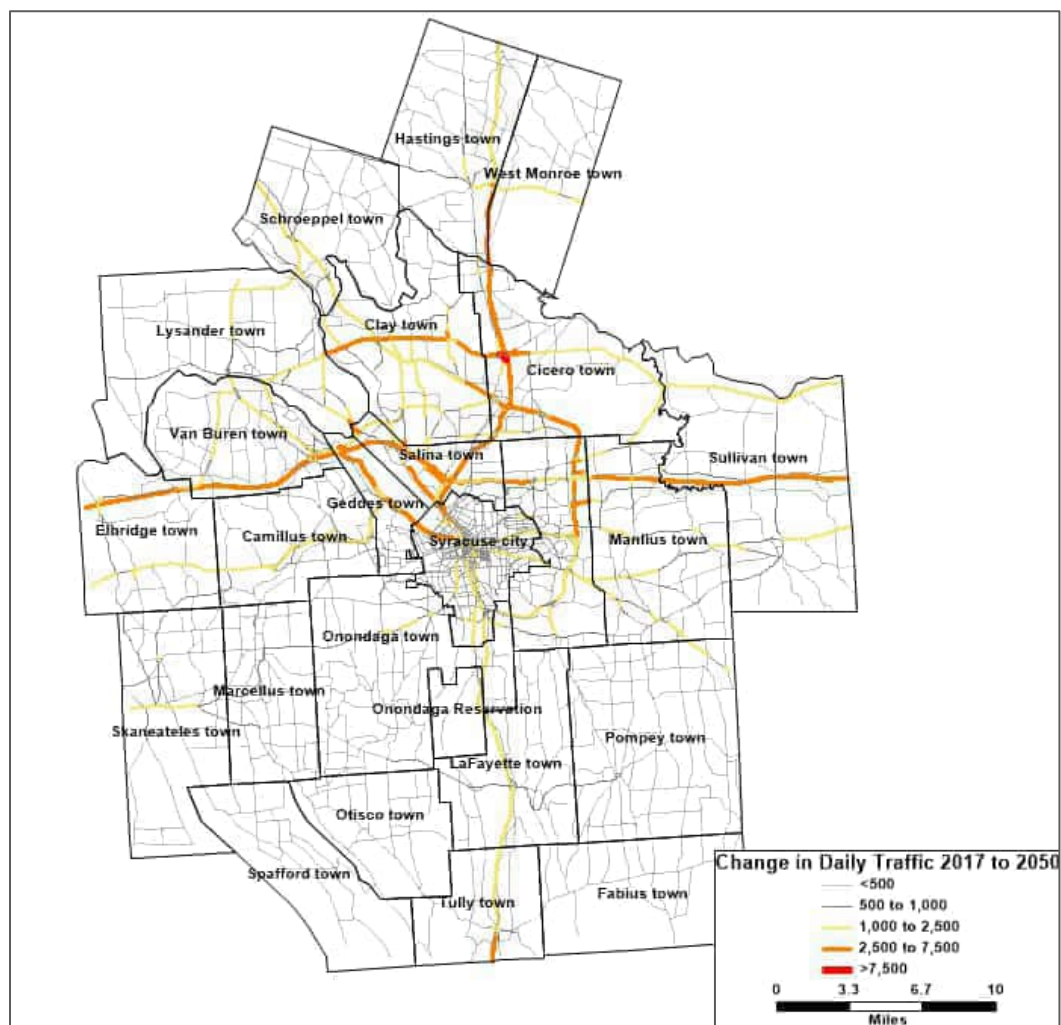
| TAZ   | SPECIAL GENERATOR          | PRODUCTIONS | ATTRACTIONS |
|-------|----------------------------|-------------|-------------|
| 8001  | NY State Fairgrounds       | (SE)        | (SE)        |
| 8002  | Destiny USA                | 14,342      | 42,249      |
| 8003  | Onondaga Community College | 4,719       | 9,292       |
| 8004  | Van Duyn Home & Hospital   | 561         | 5,235       |
| 8005  | Loretto                    | 631         | 1,839       |
| 8006  | SU South Campus            | 6,949       | 3,757       |
| 8007- |                            |             |             |
| 8009  | OnCenter                   | 4,014       | 17,958      |
| 8010  | Lemoyne College            | 4,570       | 4,052       |
| 8011  | University Hill Hospitals  | 17,871      | 43,126      |
| 8012  | Syracuse University        | 9,459       | 41,968      |
| 8013  | Carrier Dome               | (SE)        | (SE)        |
| 8014  | St. Joe's Hospital         | 339         | 4,972       |
| 8015  | NBT Bank Stadium           | (SE)        | (SE)        |
| 8016  | Hancock Airport            | 5,867       | 20,254      |

(SE): Special Event locations that are not included in a model run that represents a typical day

## 14.4 | EXTERNAL TRIPS

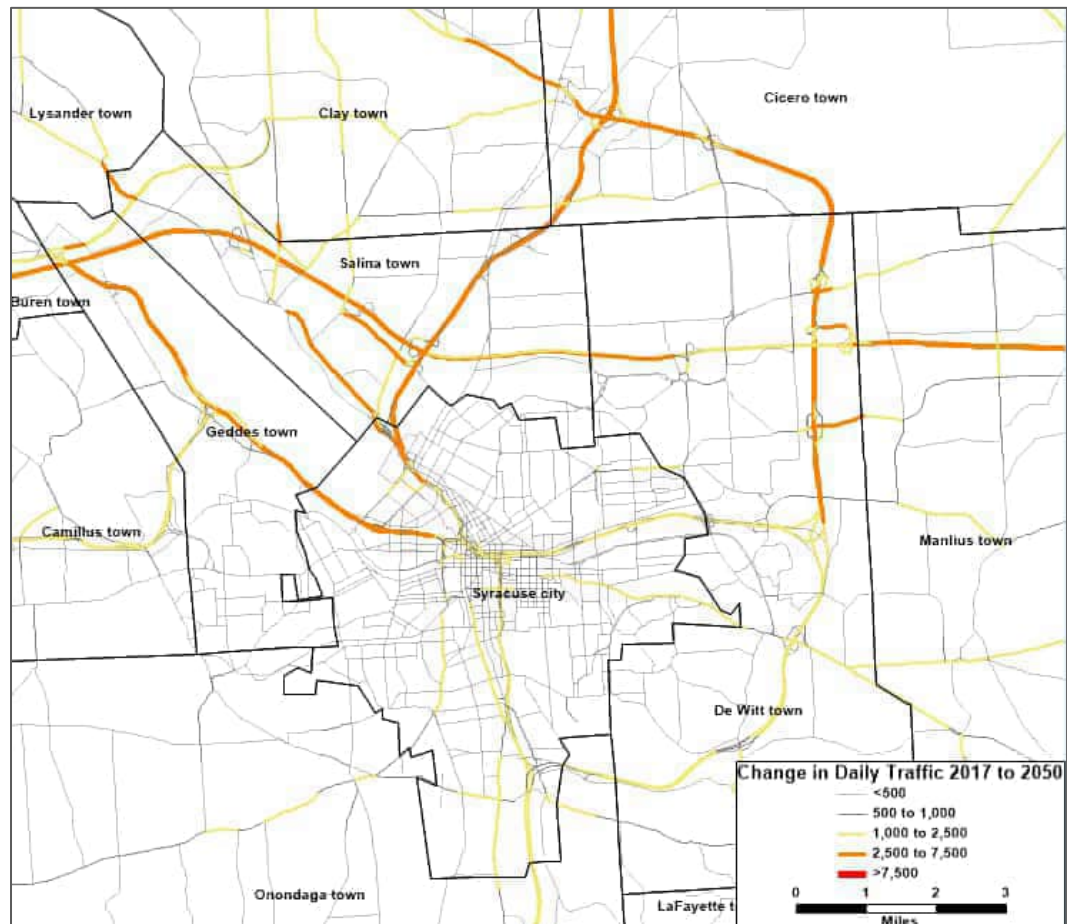
External demand was assumed to grow at 0.5% per year from 2017 to 2050. However, this rate can be user adjusted by changing input values in the ExtTAZGR.bin input file.



**FIGURE 32: FUTURE INCREASES IN DAILY TRAFFIC VOLUMES (MODEL REGION)**

*Note: Volume increases for divided roadways are shown for only one-direction of travel only.*



**FIGURE 33: FUTURE INCREASES IN DAILY TRAFFIC VOLUMES (CITY OF SYRACUSE AND VICINITY)**

*Note: Volume increases for divided roadways are shown for only one-direction of travel only.*

## 14.5 | FUTURE YEAR TRANSIT NETWORK

Several changes were made to the future year transit networks that are detailed in this section. In the transit network for 2030, 2040, and 2050, the peak and offpeak headways were altered for certain bus routes.

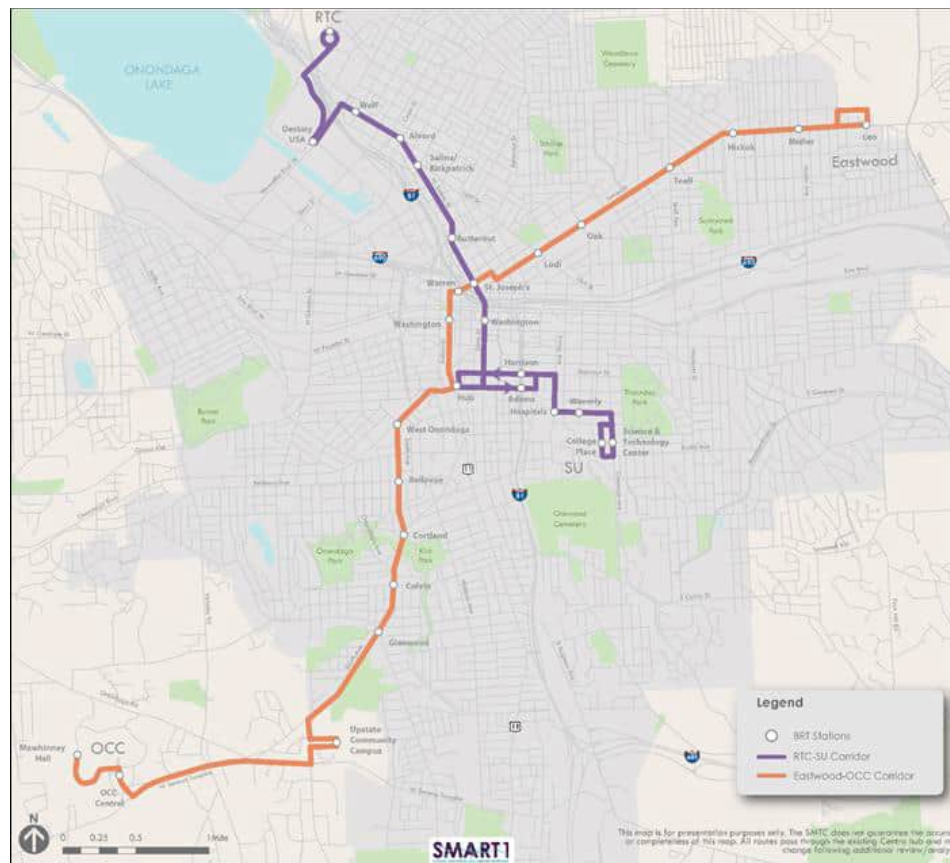
In the 2050 transit network, one express bus route and two new BRT routes were added as follows:

- 1) A new express transit route along I-81 that stops at the following Park-n-Ride facilities.
  - a. I-81 & Taft Road
  - b. I-81 & I-481
  - c. I-81 & RT 31
  - d. I-81 & Bartel Road (in Brewerton)
  - e. I-81 & RT 49 (in Central Square)
- 2) Two new BRT routes with identified stops (see Figure 34).
  - a. Added as additional bus service on these corridors.



- b. The services have 10 minute headways

**FIGURE 34: FUTURE BRT ROUTES**





## 15.0 MODEL CALIBRATION, VALIDATION AND REASONABLENESS CHECKS

---

Model calibration is the process of reviewing and adjusting parameter values in the various model steps to ensure that it reasonably replicates the existing conditions. Model validation and reasonableness checking is performed for each step in the model. Generally speaking, the model is calibrated when the model-generated roadway volumes and speeds reasonably reflect reality, and other key indicators and parameters are reasonable from a behavioral standpoint and consistent with other models, survey data and industry benchmarks.

Examples of parameters that can be modified as part of the calibration process include:

- Trip generation rates;
- Friction factors in the gravity model (trip distribution);
- Coefficients in the mode split equations (e.g. the relative weight of time vs. money);
- Time-of-day parameters;
- Network and TAZ structures;
- Free-flow speeds and capacities on the roadway network; and
- Coefficients in the assignment model relating V/C ratio to delay.

Calibration is as much an art as a science, and it requires the model developer to exercise considerable judgment as to “reasonableness.” There is an inherent balance in the process, between the extremes of an uncalibrated model that does not accurately replicate measurable field conditions and a model that is “overcalibrated” through the use of unjustifiable correction factors such that a model’s ability to predict future travel conditions is compromised.

Four (4) publications used to guide the calibration effort were:

- Calibrating and Adjustment of System Planning Models, FHWA, December 1990.  
Publication No. FHWA-ED-90-015
- NCHRP Report 365 – Travel Estimation Techniques for Urban Planning, TRB, 1998
- Model Validation and Reasonableness Checking Manual – Second Edition; FHWA,  
September 2010
- NCHRP Report 716 – Travel Demand Forecasting: Parameters and Techniques, TRB,  
2012

The calibration process used in the SMTC model development included evaluating the following metrics:

- Trip generation
- Trips/person per day
- Trips/household per day
- Trip distribution
- Average trip duration by trip purpose
- Trip length frequencies by trip purpose
- Mode choice



Regional transit ridership  
 Auto occupancy  
 Traffic assignment  
 Regional 24-hour ground counts v. model volumes  
 24-hour ground counts v. model volumes by functional class  
 Highway Performance Monitoring System (HPMS) data

## 15.1 | TRIP GENERATION

To validate the overall output from the trip generation model, the total regional trip productions were compared to trip rates extracted from the 2001 and 2009 NHTS. The average number of trips per household in the model is 8.8, close to the 9.6 trips per household in the NHTS.

## 15.2 | TRIP DISTRIBUTION

To validate the trip distribution model, the trip length frequency distributions were extracted from the survey and the model to determine if the model was replicating the overall shape of the observed frequency distributions. The model and the survey frequency distributions are examined at 2-mile distance bins (0-2 miles, 2-4 miles, etc) and 3-minute time bins (0-3 minutes, 3-6 minutes, etc). The average trip distance and average trip time can then be determined from the modeled and observed frequency distributions. Table 35 and Table 36 compare the modeled and observed average trip distance and time respectively. In both cases, the model matches closely with the observed trip lengths.

**TABLE 35: AVERAGE TRIP DISTANCE (MILES)**

| TRIP TYPE | OBSERVED | MODEL |
|-----------|----------|-------|
| HBW       | 9.0      | 9.9   |
| HBS       | 5.2      | 6.0   |
| HBO       | 6.0      | 6.3   |
| NHB       | 6.1      | 4.9   |

**TABLE 36: AVERAGE TRIP TIME (MINUTES)**

| TRIP TYPE | OBSERVED | MODEL |
|-----------|----------|-------|
| HBW       | 19.4     | 17.0  |
| HBS       | 10.3     | 8.3   |
| HBO       | 11.9     | 11.3  |
| NHB       | 12.3     | 9.0   |

Figure 35 to Figure 38 present comparisons of the observed and modeled trip distance frequency distribution. Figure 39 to Figure 42 present comparisons of the observed and



modeled trip time frequency distribution. In all cases, the model replicates the observed trip length frequency distributions closely.

FIGURE 35: HOME-BASED WORK TRIP DISTANCE DISTRIBUTIONS

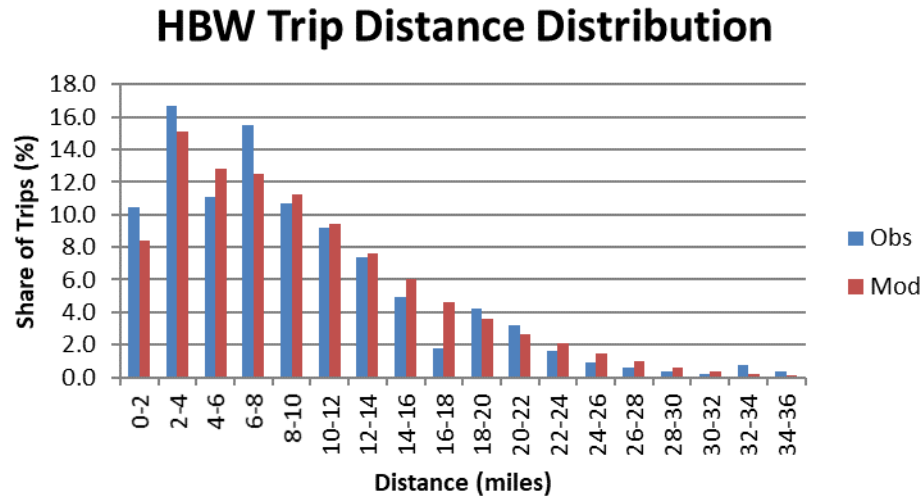


FIGURE 36: HOME-BASED SHOPPING TRIP DISTANCE DISTRIBUTIONS

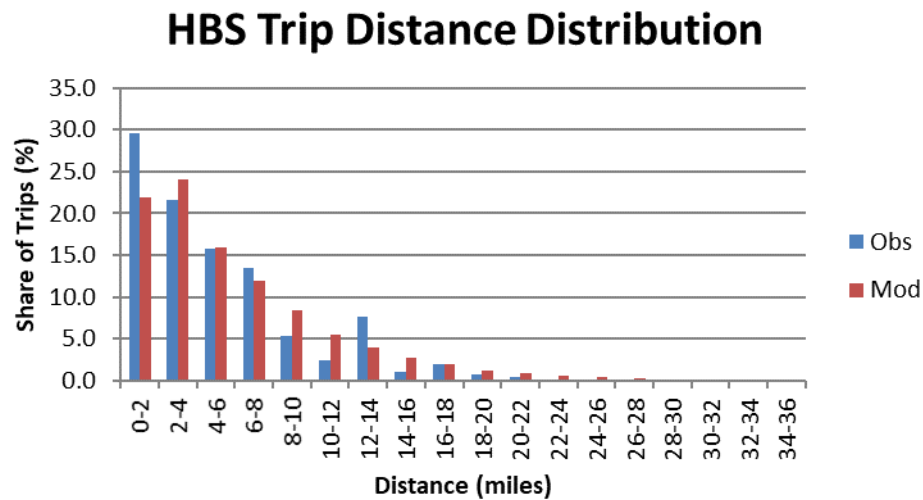




FIGURE 37: HOME-BASED OTHER TRIP DISTANCE DISTRIBUTIONS

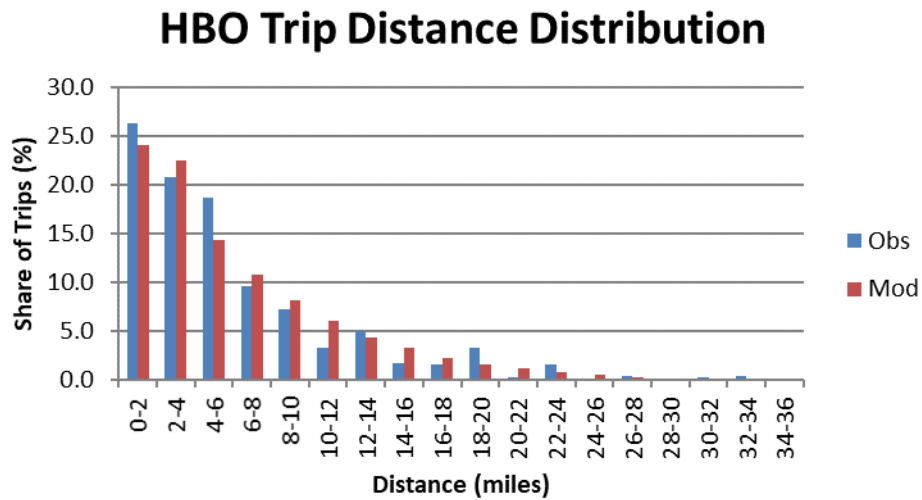


FIGURE 38: NON HOME-BASED TRIP DISTANCE DISTRIBUTIONS

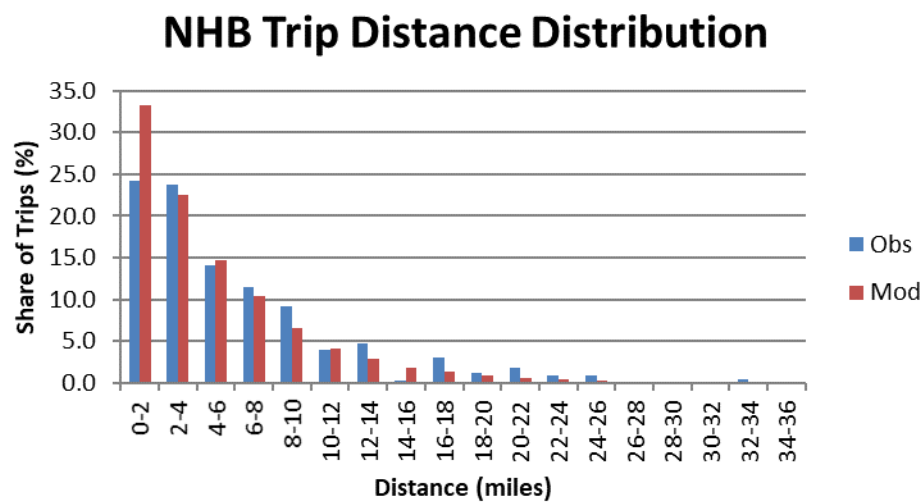




FIGURE 39: HOME-BASED WORK TRIP TIME DISTRIBUTIONS

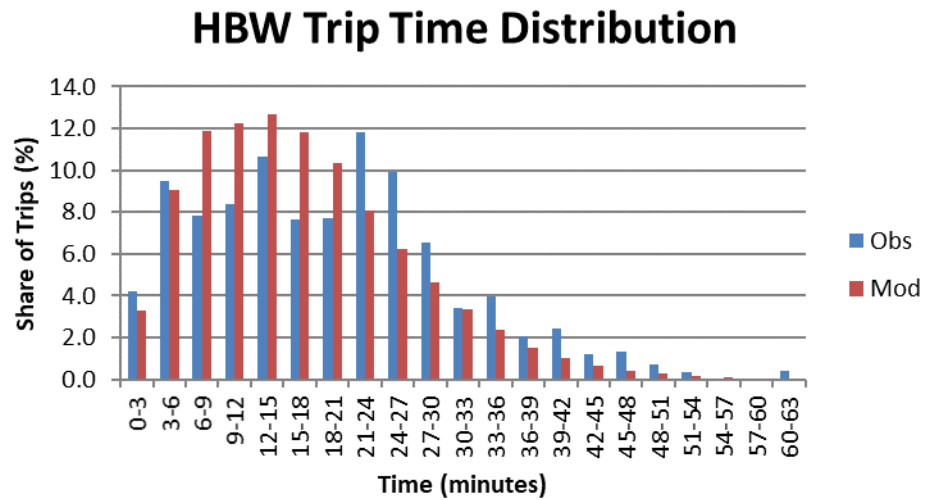


FIGURE 40: HOME-BASED SHOPPING TRIP TIME DISTRIBUTIONS

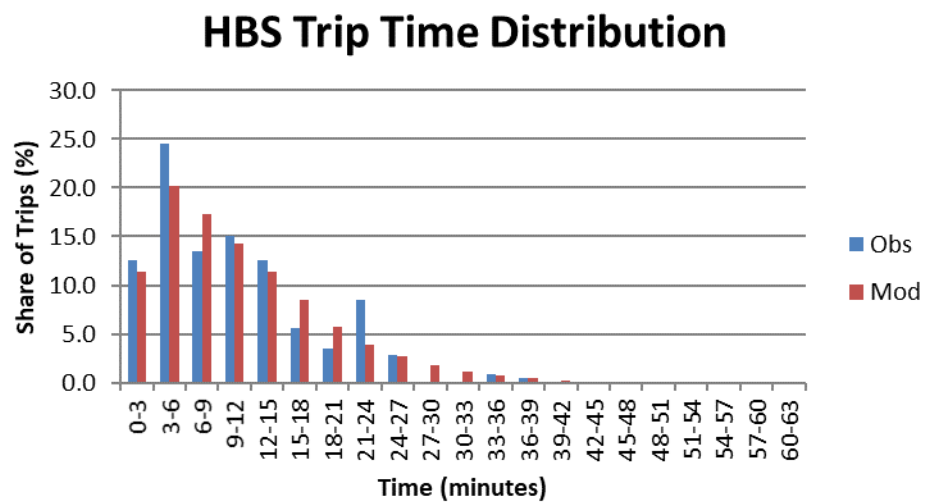




FIGURE 41: HOME-BASED OTHER TRIP TIME DISTRIBUTIONS

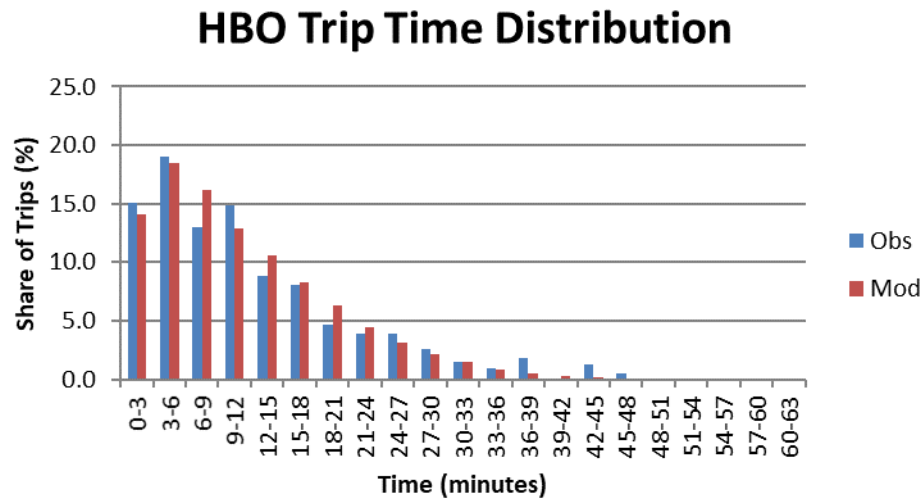
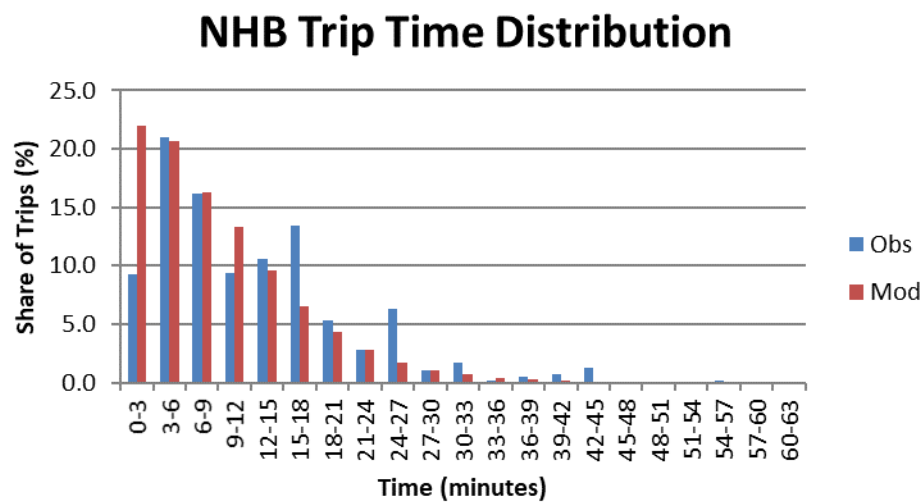


FIGURE 42: NON HOME-BASED TRIP TIME DISTRIBUTIONS



## 15.3 | MODE CHOICE

Transit demand was compared with observed data – ridership counts by time of day – to confirm that the mode choice model was producing reasonable results. While the mode choice model parameters are not estimated statistically using survey data, the comparison shown in Table 37 confirms that the asserted model produces results that match closely to daily transit boardings.



**TABLE 37: COMPARISON OF MODEL AND OBSERVED TRANSIT BOARDINGS**

|                 | MODEL  | CENTRO |
|-----------------|--------|--------|
| Daily Boardings | 39,211 | 42,000 |

## 15.4 | ASSIGNMENT

The FHWA has developed recommendations for calibration standards. The following sections detail the calculation of the various statistics used to measure calibration. Individual link errors were calculated by subtracting the model link volume from the ground count for that link.

### COEFFICIENT OF CORRELATION

The coefficient of correlation, “R”, is commonly used to measure the strength and direction between two sets of variables. An R value of 1.0 would indicate a perfect one to one correlation between the two variables, an r value of zero would indicate a completely random correlation, and an R value of -1 would indicate a perfect inverse correlation. The value of R can be estimated using the following formula.

$$r = \frac{\sum(x \cdot y) - n \cdot \bar{x} \cdot \bar{y}}{\sqrt{(\sum(x^2) - n \cdot \bar{x}^2)(\sum(y^2) - n \cdot \bar{y}^2)}}$$

where:

x = Ground count

y = Calibration volume

n = Number of observations

FHWA recommends a minimum R-squared value of 0.88; the daily model has a correlation coefficient (R) of 0.94 which is equivalent to an R-squared of 0.88. Note, the most recent FHWA manual on calibration and validation has downplayed the importance of the Coefficient of Correlation (R-squared) metric. However, the statistic is included in this section of the model documentation because it continues to be a common industry measure.

*“R-squared probably tells more about the coding of facility type and number of lanes than about how the model and assignment is performing. Thus, achieving a regional R-squared of 0.88, as has been suggested as a “standard” for determining a model’s validity, has little if any meaning.”*



## ROOT MEAN SQUARED ERROR

The root mean squared error (RMSE) is an average link error that weights the larger volume errors in a network. It should be noted that the RMSE is always higher than the actual average network error because of the weighting scheme. RMSE is calculated as:

$$\text{RMSE} = \sqrt{\frac{\sum [(x - y)^2]}{n}}$$

where:

x = Ground count

y = Calibration volume

n = Number of observations

The RMSE should generally be less than 40%; the daily model has an RMSE of 36.5%.

## SUM OF DIFFERENCES

The sum of differences is the average error of the network. It is similar to FHWA's percent error region-wide threshold.

$$\text{SumDif} = \sum (y - x) \quad \text{or} \quad \frac{\sum (y - x)}{n} \times 100\%$$

where:

x = Ground count

y = Calibration volume

n = Number of observations

The region-wide percent sum of differences for the daily model is -1.93%.



## COMPARISON TO CALIBRATION THRESHOLDS

A comparison between the FHWA recommendations and the calibrated daily model is shown in Table 38. All measures of performance exceed thresholds published by the FHWA.

**TABLE 38: FHWA ASSIGNMENT CALIBRATION THRESHOLDS**

|                                              | FHWA      | MODEL   |
|----------------------------------------------|-----------|---------|
| Correlation Coefficient                      | 0.88      | 0.94    |
| Percent Error Region-Wide                    | + / - 5%  | -2.31%  |
| <b><u>Sum of Differences by Facility</u></b> |           |         |
| Freeways                                     | + / - 7%  | 4.93%   |
| Principal Arterials                          | + / - 10% | -0.74%  |
| Minor Arterials                              | + / - 15% | -10.13% |
| Collectors                                   | + / - 25% | -3.78%  |

Table 39 presents the assignment validation reports generated by the model for the all day (Daily), the AM Peak Hour and the PM Peak Hour. The tables show the correlation, percent error overall, and percent error by facility type.

**TABLE 39: ASSIGNMENT VALIDATION**

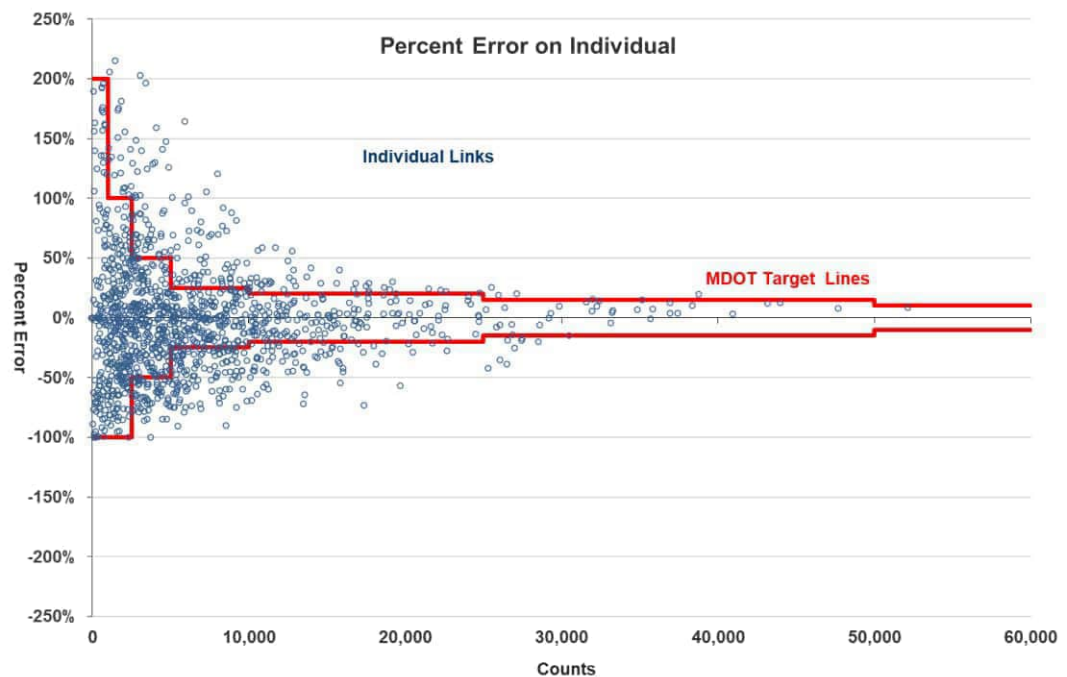
| Calibration Statistics         | FHWA Recommendations | Daily Model | AM Peak Hour Model | PM Peak Hour Model |
|--------------------------------|----------------------|-------------|--------------------|--------------------|
| Coefficient of Correlation {R} | 0.880                | 0.942       | 0.930              | 0.927              |
| Percent Error Region-Wide      | + / - 5%             | -2.31%      | 2.20%              | -1.04%             |
| Sum of Differences             |                      |             |                    |                    |
| Freeways                       | + / - 7%             | 4.93%       | 1.62%              | 1.46%              |
| Principal Arterials            | + / - 10%            | -0.74%      | 6.72%              | -1.49%             |
| Minor Arterials                | + / - 15%            | -10.13%     | 3.88%              | -0.67%             |
| Collectors                     | + / - 25%            | -3.78%      | -3.34%             | -5.08%             |

The Michigan Department of Transportation (MDOT) has developed error targets for comparing daily model and observed volumes for individual links. The MDOT error targets are presented in Table 40 and are displayed as the red lines in Figure 43. Outliers are expected and typically having a majority of the data points within the error boundary is deemed acceptable with more stringent criteria applied to the high volume links.



**TABLE 40: MICHIGAN DOT VOLUME-BASED CALIBRATION STANDARDS**

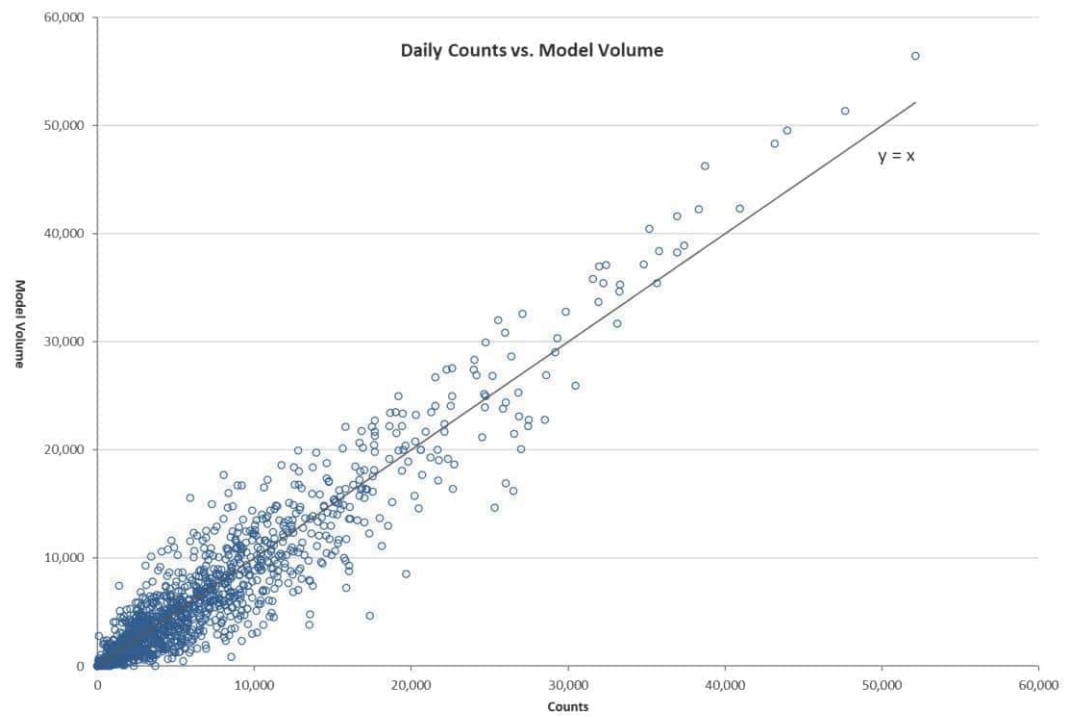
| (Upper Bound)<br>Link Volume | MDOT error |
|------------------------------|------------|
| 0                            | 200%       |
| 1,000                        | 100%       |
| 2,500                        | 50%        |
| 5,000                        | 25%        |
| 10,000                       | 20%        |
| 25,000                       | 15%        |
| 50,000                       | 10%        |

**FIGURE 43: COMPARISON OF INDIVIDUAL LINK LEVEL ERRORS USING MDOT CRITERIA**

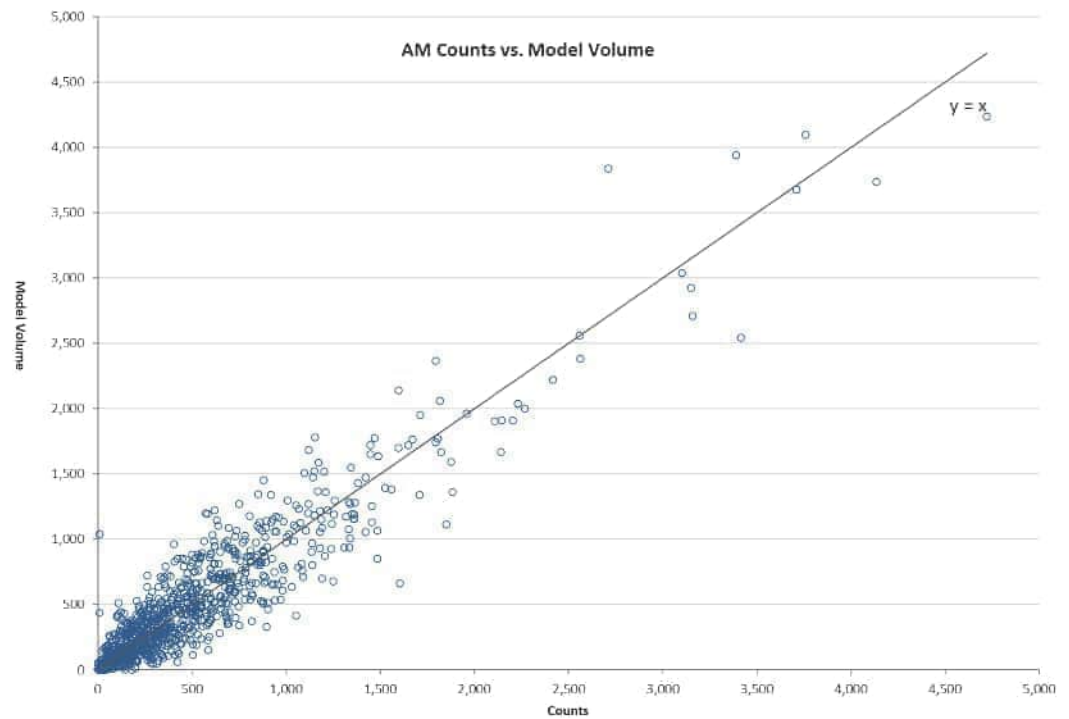
Scattergrams which plot the observed count on the x-axis versus the model volume on the y-axis are used to visually inspect the model fit to observed data. A 'perfect fit' is illustrated by the  $y=x$  line where the model volume is equal to the count volume on the link. Data points distant from the  $y=x$  line are cases where the model is not well-aligned with the observed count data. Again, as the link volumes increase, the model should do a better job matching existing counts on the high class facilities such as interstates and freeways. Figure 44, Figure 45, and Figure 46 show daily, AM and PM scattergrams respectively.



**FIGURE 44: SCATTERGRAM SHOWING DAILY COUNTS VS. MODEL VOLUMES**



**FIGURE 45: SCATTERGRAM SHOWING AM COUNTS VS. MODEL VOLUMES**





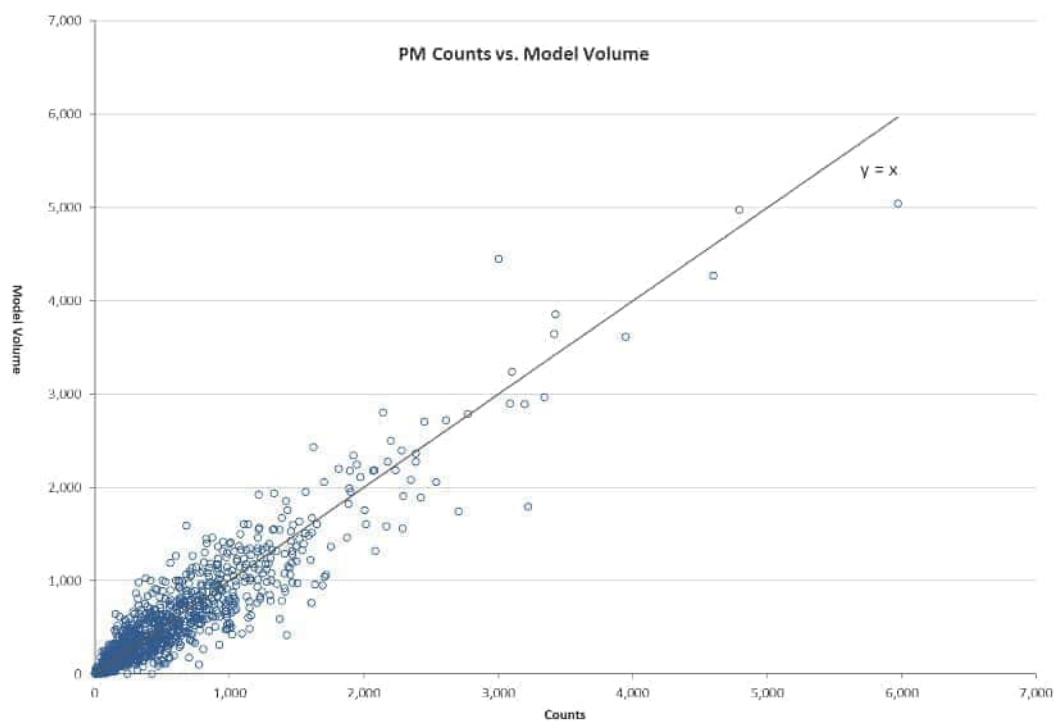
**FIGURE 46: SCATTERGRAM SHOWING PM COUNTS VS. MODEL VOLUMES**

Figure 47 shows volume error (Model Volume – Observed Counts) and Figure 48 shows the same volume area with a focus on Syracuse proper.



FIGURE 47: VOLUME ERROR MODEL REGION

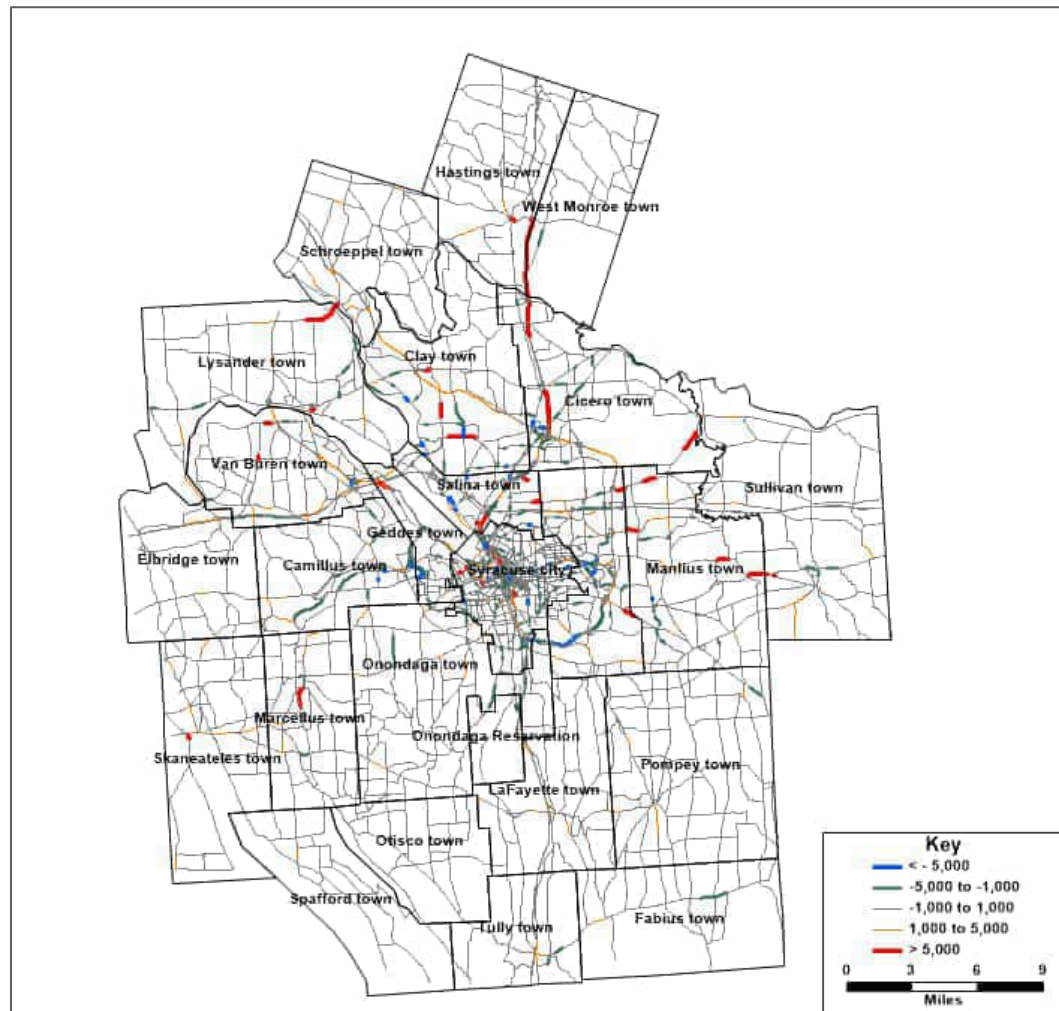
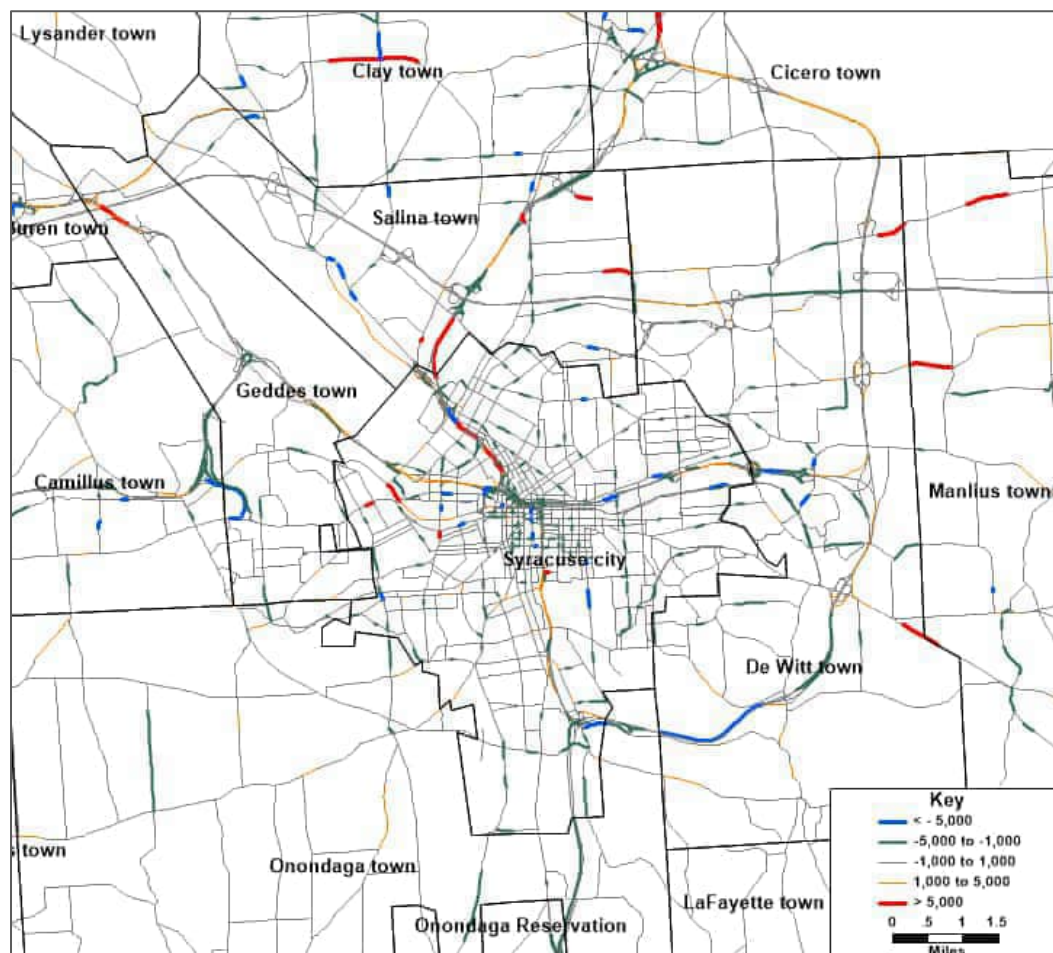




FIGURE 48: VOLUME ERROR SYRACUSE PROPER





## 16.0 MODEL CHANGES BY VERSION

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This section of the report lists the changes that were made in this revision to the model. This section is a cumulative record of changes that have been made since SMTC Travel Demand Model, Version 3.00, which was documented in the SMTC Travel Demand Model Validation Report (December 2010)<sup>7</sup>.

### 16.1 | SMTC TRAVEL DEMAND MODEL, VERSION 3.02 (NOVEMBER 2011)

The changes made in this revision to the model are:

As part of the I-81 Corridor Study, calibration adjustments were made to the model to better match traffic count data in the area around the I-81 viaduct in central Syracuse. Adjustments were made to some turn penalties and ramp penalties, through trip numbers on I-90, and parameters in the highway network skimming process. While the changes made insignificant differences on a regional level, they did improve the match with observed traffic patterns in the I-81 study area, and resolved a small number of anomalous locations close to I-81 that had been identified during model output reviews by the I-81 Corridor Study team.

### 16.2 | SMTC TRAVEL DEMAND MODEL, VERSION 3.023 (APRIL 2012)

The changes made in this revision to the model are:

Changes to the land-use data describing the number of households, the household population and the group quarters population in the City of Syracuse for both the base year (2007) and the future year (2035) to better reflect observed growth rates seen in the 2010 Census data for Syracuse, which was not available when the land-use inputs to model version 3.02 were developed. These changes are described in Section 3.2.6 of SMTC Travel Demand Model Version 3.023 Documentation.

### 16.3 | SMTC TRAVEL DEMAND MODEL, VERSION 4.04 (NOVEMBER 2014)

The changes made in this revision to the model are:

Expanded the model coverage north of the existing model coverage area into the towns of Schroepfel, Hastings, West Monroe, and a portion of Granby, and west of the existing model area into the town of Sullivan area.

Changes to the land-use data describing the number of households, the household population and the group quarters population in the City of Syracuse for both the base year (2014) and the future year (2050) to better reflect observed growth rates seen in the 2010 Census data for Syracuse, which was not available when the land-

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<sup>7</sup> Note that the model version number used in this report was SMTC Travel Demand Model, Version 2.2; this was later revised to be SMTC Travel Demand Model, Version 3.00



use inputs to model version 3.02 were developed. These changes are described in the sections above.

Added interim model years 2020 and 2030.

Reviewed the existing transit system and updated it based on the latest information from CENTRO.

#### **16.4 | SMTC TRAVEL DEMAND MODEL, VERSION 5.0 (JUNE 2020)**

The changes made in this revision to the model are:

Updated model code to work in TransCAD version 7.

Updated base-year land use data based on more recent NY state employment data.

Updated future land-use distributions based on base-year revisions.

Increased the number of TAZs from 1,185 to 1,193.

Updated non-motorized mode-split.

Created a new Master Network tool.

Added interim model years 2030 and 2040.

Updated base-year validation to 2017 conditions.



## 17.0 MODEL INPUT FILES

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This section lists the input files to the SMTc model.

### 17.1 | HIGHWAY NETWORK INPUTS

Model Network (“SMTc\_Network\_20\*.dbd”) – A geographic file that contains the structural detail and lists (most of) the link and node attributes of the highway network.

Link Type Lookup Table (“LTLTable.bin”) – A binary table that contains some link data organized by facility and area type.

Node Type Lookup Table (“NTLTable.bin”) – A binary table that contains some intersection data organized by node type.

Link Turn Prohibitions (“Link\_Turn\_Prohibitions.bin”) – A binary table that lists all the link-to-link turn prohibitions and penalties.

Interfacility Turn Penalties (“FC\_TurnProhibitions.bin”) – A binary table that lists all the inter facility turn penalties.

Volume-Delay Function Parameters (“VDF\_Param.bin”) – A binary table that lists the volume-delay parameters by functional class.

### 17.2 | TRANSIT NETWORK INPUTS

Transit Stops Layer (“Stops.bin”) – A binary table that lists the key stops and via points in transit network.

Transit Route Stops (“RouteStops.bin”) – A binary table that lists each stop or via point visited by each route.

Transit Routes (“Routes.bin”) – A binary table that lists each route in the transit network.

Transit Mode Table (“transitModeTable.bin”) – A binary table that lists the argument to various network parameters by transit submode.

Headway table (“headwayTab.bin”) – A binary table that lists the peak and off-peak headways by route.

### 17.3 | TRIP GENERATION INPUTS

TAZ Layer (“SMTc\_TAZs\_20\*.dbd”) – A geographic file that contains the structural detail of the TAZ layer.

Land Use table (“LandUse.bin”) – A binary table that lists socio-economic inputs for each TAZ.

Special Gen (“SpecialGen\_PA.bin”) – A binary file that lists the productions and attractions by special generator.

IXXI Trips (“IXXI\_ExternalTripEnds.bin”) – A binary file that lists the productions and attractions by external TAZ.

IX Production percent (“IXProdPercentage.bin”) – A binary file that lists the percent of internal productions by TAZ destined for externals.

IXXI\_Truck Percent (“IXXI\_Truck.bin”) – A binary file that lists the IXXI truck percentages for each zone.



Production Rates (“ProdRates.bin”) – A binary table that lists trip production rates by the joint distribution of trip purpose, household size, and number of vehicles.

#### **17.4 | TRIP DISTRIBUTION INPUTS**

XX Trip Distribution (“XXTrips.mtx”) – A matrix that lists the number of daily external-to-external trips.

External Growth (“ExtTAZGR.bin”) – A binary file that lists percent annual growth applied to future-year scenarios for external stations.

#### **17.5 | DIURNAL DISTRIBUTION INPUTS**

Diurnal Distribution (“hourlyLookupTable.bin”) – A binary table that lists the distribution of trips by time of day.

#### **17.6 | ASSIGNMENT INPUTS**

Query File (“\*\*\*\*.qry”) – An optional query file that may be used in assignment.

#### **17.7 | REPORTING INPUTS**

Calibration report aggregations (“calrepinfo.bin”) – A binary table that lists the functional class and geographic aggregation scheme to be used in reporting.



## 18.0 MODEL SCRIPTS

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This section lists the scripts used to run the SMTC model. There are a total of 14 scripts. One script is responsible for declaring the other 13 scripts, which are used to execute different phases of the model.

- MacrosLIST\_SMTC.lst – Declares each of the scripts used in the model by specifying their paths.
- Utility\_SMTC.rsc – Contains general purpose utility macros.
- GUI\_SMTC.rsc – Controls the graphical user interface.
- Globals\_SMTC.rsc – Declares which variables are shared between scripts.
- Defaults\_SMTC.rsc - defines the output file paths
- InitializeNetwork\_SMTC.rsc – Initializes the highway network for a new model run.
- PrepareSEData\_SMTC.rsc – Prepares SE data for trip generation.
- TripGeneration\_SMTC.rsc – Executes the trip generation model
- CreateNetwork\_SMTC.rsc – Executes the highway network creation and skimming procedure
- CreateTransitNetwork.rsc – Executes the transit route-building and skimming procedures
- DistributionTimeSkim\_SMTC.rsc – Executes time skims for distribution.
- TripDistribution\_SMTC.rsc – Executes the trip distribution model.
- AutoTrips\_SMTC.rsc – removes non-auto trips prior to assignment.
- Assignment\_SMTC.rsc – Executes peak period assignment.
- TerminalTime\_SMTC.rsc – converts terminal time bin file into matrix format.
- ModeSplit\_SMTC.rsc – Executes the mode choice model and converts auto person-trips to vehicle-trips
- Diurnal\_SMTC.rsc – Tabulates hourly, auto demand
- FinalAssignment\_SMTC.rsc – Executes the final iteration of highway assignment.
- DAFeedback\_SMTC.rsc – Test for model convergence
- Calibration\_SMTC.rsc – Prepares summary reports for model validation.
- Reports\_SMTC.rsc – Generates a number of model reports



## 19.0 MODEL OUTPUTS AND REPORTING

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This section lists the commonly used outputs of the SMTC model.

### 19.1 | HIGHWAY NETWORK OUTPUTS

Highway Network File (“network.net”) – A network file that contains all the compiled data for the highway network.

Model Network (“NetworkOut.dbd”) – The data within the highway network (see section 17.1 | ) is updated during model application.

### 19.2 | TRANSIT NETWORK OUTPUTS

Valid Transit Nodes (“PotentialTransitStops.dbd”) – A geographic file that contains the set of valid highway nodes for which the transit stops are snapped to.

Route Stops (“Bus\_RouteStops\_Adj.bin”) – A binary table that lists all stops visited by all routes, including those that were automatically added in the route-building process.

Transit Route System (“TransitRoutes.rts”) – A geographic file that contains the structural detail and lists stop and route attributions of the transit network.

Transit Network File (“transitnetwork.tnw”) – A network file that contains all the compiled data for the transit network.

Transit Skim Matrices (“\*\*\*.mtx”) – A series of matrices (peak, off-peak) that list the skimmed transit attributes between valid TAZ pairs.

### 19.3 | TRIP GENERATION OUTPUTS

Trip Productions Table (“ProductionTrips.bin”) – A binary table that lists the number of productions by TAZ by trip purpose.

Attraction Trips Table (“AttractionTrips.bin”) – A binary table that lists the number of attractions by TAZ by trip purpose.

IXXI Passenger Table (“IXXI\_Passenger.bin”) – A binary table that lists the IX productions and XI attractions by TAZ.

### 19.4 | TRIP DISTRIBUTION OUTPUTS

Distribution Matrix (“\*\*\*\*\*.mtx”) – Matrix files that lists the productions and attractions and distribution metrics by trip purpose for TAZ pair.

### 19.5 | MODE CHOICE OUTPUTS

Mode Choice Probability Matrices (“\*\*\*Prob.mtx”) – A series of matrices that list mode choice probabilities.

Mode Choice Trip Matrices (“\*\*\*TripsOut.mtx”) – A series of matrices that list person-trips by mode.

### 19.6 | DIURNAL DISTRIBUTION OUTPUTS

Hourly, Auto Origin-to-Destination Matrix (“odVehicleTripByHour.mtx”) – A matrix that lists the number of origin-to-destination auto trips by trip purpose and hour.



Auto Origin-to-Destination Matrix (“allODTripsByHour.mtx”) – A matrix that lists the number of origin-to-destination auto trips by trip purpose and period.

## 19.7 | HIGHWAY ASSIGNMENT OUTPUTS

Highway Assignment Table (“flowTable xx.bin”) – A series of binary tables (by hour) that list the assignment results by network link.

Final assignment table (“finalAssignmentTable.bin”) – A table that lists assignment results for all hours by link

Assigned trip matrices (“\*\*\*\*Trips.mtx”) – A series of matrices containing the assigned auto, bus, and rail (placeholder) trips by between each TAZ pair.

Highway Congested Travel Times (“\*\*\*\*CongTTskim.mtx”) – A series of matrices that list the congested travel times between each TAZ pair.

## 19.8 | TRANSIT ASSIGNMENT OUTPUTS

Transit Flow Table (“buFlowTable”) – A binary table that list the transit volume along each route segment.

Transit Boardings Table (“busOnOff.bin”) – A binary table that lists the transit boardings and alightings at each stop for each route.

## 19.9 | REPORTS

Summary report visualizer (“Reports\_\*\*\*\*.xslm”) – A macro-enabled excel file that collects data from co-located model-generated reports and summarizes in an excel format.

- Trip statistics
- Daily and peak hour calibration statistics
- Mode choice summary
- Trip length distance and time distribution summaries



## 20.0 GLOSSARY

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**Accessibility:** measure describing the ease with which travelers can reach activities and/or destinations.

**Accuracy:** degree of conformity of a measure to a standard, known or true value

**Aggregate:** a collection of units into a single body or mass (in this case TAZs)

**Attractions:** the non-home end of any home-based trip or the destination of any non-home-based trips

**Calibration:** procedure used to estimate the various parameters and coefficients of a travel demand model so the results produced replicate known travel behavior for a base year

**Computed Data:** data that the model will automatically calculate at during a model run. No maintenance is needed by the analyst)

**Delay:** the difference between congested travel time and free-flow travel time

**Free-flow travel time:** travel time under free-flow conditions typically calculated as the distance divided by the posted speed limit

**Friction Factors:** represent the reluctance of persons to make trips of various duration or distances. The general friction factor indicates that as travel times increase, travelers are increasingly less likely to make trips of such lengths. Calibration of the gravity model involves adjusting the friction factor

**Gravity Model:** a mathematical model of trip destination based on the premise that trips produced in any given area will distribute themselves in accordance with the accessibility of other areas and the attractions those areas offer

**HOV2:** 2-person high occupant vehicle

**HOV3+:** 3+person high occupant vehicle

**Immutable Data:** data that should never be edited by the analyst. The immutable status is typically reserved for identification fields in tables .

**Logit Choice Model:** statistical procedure that describes choices made by people among a finite set of alternatives

**Lookup Table Data:** data that is automatically imported from another source, such as a text file. Although the model executes this import during a model run, the analyst typically needs to manage the lookup source (e.g. a binary file with link speeds and capacities)

**Pivoting:** process used to adjust raw model volumes by applying the difference between two scenarios to observed ground counts

**Precision:** strictly conforming to a pattern, standard or convention

**Productions:** the home end of a home-based trip and the origin end of non-home-based trip



**Shortest path:** the shortest path between two locations measured in terms of either distance, time or both distance and time

**Skimming:** the process of collecting all the shortest-path information for all zones in the travel model network. An automated process that typically uses commercially available transportation planning software such as TransCAD

**Smart Growth:** building urban, suburban and rural communities with housing and transportation choices near jobs, shops and schools. This approach supports local economies and protects the environment.

**SOV:** single occupant vehicle

**Transporation analysis zone (TAZ):** geographical unit the region is broken down into for the purpose of collecting and analyzing land-use data. Model calculations are performed at this level of spatial disaggregation

**Transit Oriented Development (TOD) -** is a mixed-use residential or commercial area designed to maximize access to public transport

**Trip length frequency:** a graphical distribution which shows the number of trips plotted by trip time

**Value of time (VOT) -** is the opportunity cost of the time that a traveler spends on his/her journey. In essence, this makes it the amount that a traveler would be willing to pay in order to save time, or the amount they would accept as compensation for lost time

**Volume-delay function:** a set of functions that calculate congested travel time base on the relationship between a road's volume and capacity

**User-Maintained Data:** data that the analyst is responsible for entering and maintaining

**VMT:** vehicle miles of travel (link volume multiplied by link distance summed for all links in the network)

**VHT:** vehicle hours of travel (link time multiplied by link volume summed for all links in the network)



The following is a list of projects that are documented in the SMTC LRTP (<https://smtcmpo.org/publications/lrtp/>) and included in the regional travel demand model when applicable. This information was collected in 2020 as part of our LRTP update process. Limited information was available for most of these projects and general assumptions were made to include them in the model. The changes made in the model for these projects are a proxy for creating or constraining capacity. Please note that the current SMTC TDM does not include the planned changes for the NYSDOT I-81 project (community street grid alternative) in any of its future years. The following list includes projects that may no longer be valid based on the I-81 project and other recent project updates by member agencies. Coordination with the identified agencies is recommended for more detail.

## **Short-Term Projects (2030) – Included in Regional Travel Demand Model**

### **NYSDOT**

- **Route 370 at John Glenn Blvd intersection improvements**
  - o Install additional thru lane on Route 370 NB, right turn lane Route 370 SB, right turn lane John Glenn WB, left turn lane John Glenn EB.
- **Onondaga Lake Parkway safety improvements**
  - o Onondaga Lake Parkway from 4 lanes to 2 lanes from Ska Center to I-81
  - o Reduce speed on same section from 55 to 45mph
  - o Add left turn lanes on Old Liverpool Road at Electronics Parkway
- **Reconstruct Rt 11 at Rt 49 intersection**
  - o Basic single lane roundabout assumed
- **31 at Thompson Rd and South Bay Rd intersection improvements**
  - o Basic single lane roundabouts assumed at both intersections
- **Route 481 NB Off-Ramp at Circle Drive**
  - o Install a designated right turn lane (300'), and longer left turn lane (1000') for the Route 481 off ramp approach.
  - o Install an additional 400' right turn lane for the westbound Circle Drive approach at its intersection with Route 11. This would create a signalized dual right turn lane at this intersection.

### **OCDOT**

- **Caughdenoy Rd and NY 31 improvements**
  - o Route 31 and Caughdenoy left turn lanes all approaches, right turn lanes N, W, E and signal.
  - o Caughdenoy Road add second northbound lane to railroad tracks
- **Buckley Road from Hopkins Rd to Taft Rd Improvements**
  - o Add new signal at Buckley and Dolshire including turn lanes from Buckley



## City of Syracuse

- **N, S, E, W corridors interconnect expansion – signal coordination**
  - o Project limits include James St from Teall Ave to City Line (9 intersections), S. Salina St from Taylor St to Dorwin Ave (16 intersections), Seneca Turnpike from S. Salina St to Valley Drive (2 intersections), E. Genesee St from Beech St to Carlton Rd (9 intersections), South Ave from W. Onondaga St to Glenwood Ave (8 intersections), Valley Drive from South Ave to West Seneca Turnpike.

## Centro

- **Change in future peak and off-peak headways**
  - o as shown in table below

| Centro Average Headways - September 2019 |                                 |                                  |                            |                             |                            |                            |                             |                            |
|------------------------------------------|---------------------------------|----------------------------------|----------------------------|-----------------------------|----------------------------|----------------------------|-----------------------------|----------------------------|
| Line Abbr                                | Line Name                       | 2015<br>Average Peak<br>Headways | 2019<br>Average<br>AM Peak | 2019<br>Average<br>Off-Peak | 2019<br>Average<br>PM Peak | Estimated Headways         |                             |                            |
|                                          |                                 |                                  |                            |                             |                            | 2030<br>Average<br>AM Peak | 2030<br>Average<br>Off-Peak | 2030<br>Average<br>PM Peak |
| Sy 10                                    | South Salina - Nedrow           | 10                               | 8.6                        | 27.7                        | 13.3                       | 8.6                        | 15                          | 13.3                       |
| Sy 16                                    | North Salina - Buckley Rd       | 20                               | 20                         | 72                          | 30                         | 20                         | 20                          | 30                         |
| Sy 20/21/22/23/323                       | James Street                    | 15                               | 7.5                        | 25.7                        | 10                         | 7.5                        | 15                          | 10                         |
| Sy 26                                    | South Ave                       | 15                               | 20                         | 36                          | 30                         | 20                         | 15                          | 30                         |
| Sy 30                                    | Westcott - SU                   | 40                               | 30                         | 72                          | 30                         | 30                         | 72                          | 30                         |
| Sy 36                                    | Camillus                        | 20                               | 20                         | 45                          | 20                         | 20                         | 45                          | 20                         |
| Sy 40/240/340                            | Drumlins - Nob Hill             | 15                               | 12                         | 27.7                        | 13.3                       | 12                         | 15                          | 13.3                       |
| Sy 46/Osw46                              | Liverpool - Route 57 / Oswego   | 50                               | 15                         | 60                          | 40                         | 15                         | 60                          | 40                         |
| Sy 48                                    | Liverpool - Morgan              | 48                               | 30                         | 180                         | 40                         | 30                         | 180                         | 30                         |
| Sy 50                                    | Destiny USA *                   | 20                               | 60                         | 36                          | 24                         | 60                         | 20                          | 24                         |
| Sy 52                                    | Court Street                    | 15                               | 15                         | 32.7                        | 20                         | 15                         | 32.7                        | 20                         |
| Sy 54                                    | Midland - Valley Drive          | 20                               | 15                         | 90                          | 20                         | 15                         | 90                          | 20                         |
| Sy 58                                    | Park Hill                       | 20                               | 20                         | 120                         | 30                         | 20                         | 120                         | 30                         |
| Sy 62                                    | Manlius                         | 30                               | 20                         | 120                         | 30                         | 20                         | 120                         | 30                         |
| Sy 64                                    | Western Lights & Grand Avenue   | 25                               | 15                         | 40                          | 20                         | 15                         | 15                          | 20                         |
| Sy 68                                    | East Fayette - Erie Blvd        | 25                               | 20                         | 36                          | 30                         | 20                         | 15                          | 30                         |
| Sy 72                                    | Townsend - East Colvin          | 20                               | 30                         | 180                         | 40                         | 30                         | 180                         | 40                         |
| Sy 74                                    | Solvay                          | 25                               | 15                         | 60                          | 17.1                       | 15                         | 60                          | 17.1                       |
| Sy 76                                    | Salt Springs                    | 30                               | 20                         | 45                          | 24                         | 20                         | 45                          | 24                         |
| Sy 80                                    | Grant Blvd                      | 40                               | 20                         | 90                          | 30                         | 20                         | 90                          | 30                         |
| Sy 82                                    | Baldwinsville                   | 40                               | 43                         | 180                         | 40                         | 43                         | 90                          | 40                         |
| Sy 84                                    | Mattydale                       | 30                               | 20                         | 90                          | 30                         | 20                         | 90                          | 30                         |
| Sy 86                                    | Henry Clay                      | 40                               | 43                         | 180                         | 60                         | 43                         | 180                         | 60                         |
| Sy 88                                    | North Syracuse - Central Square | 30                               | 15                         | 120                         | 20                         | 15                         | 120                         | 20                         |

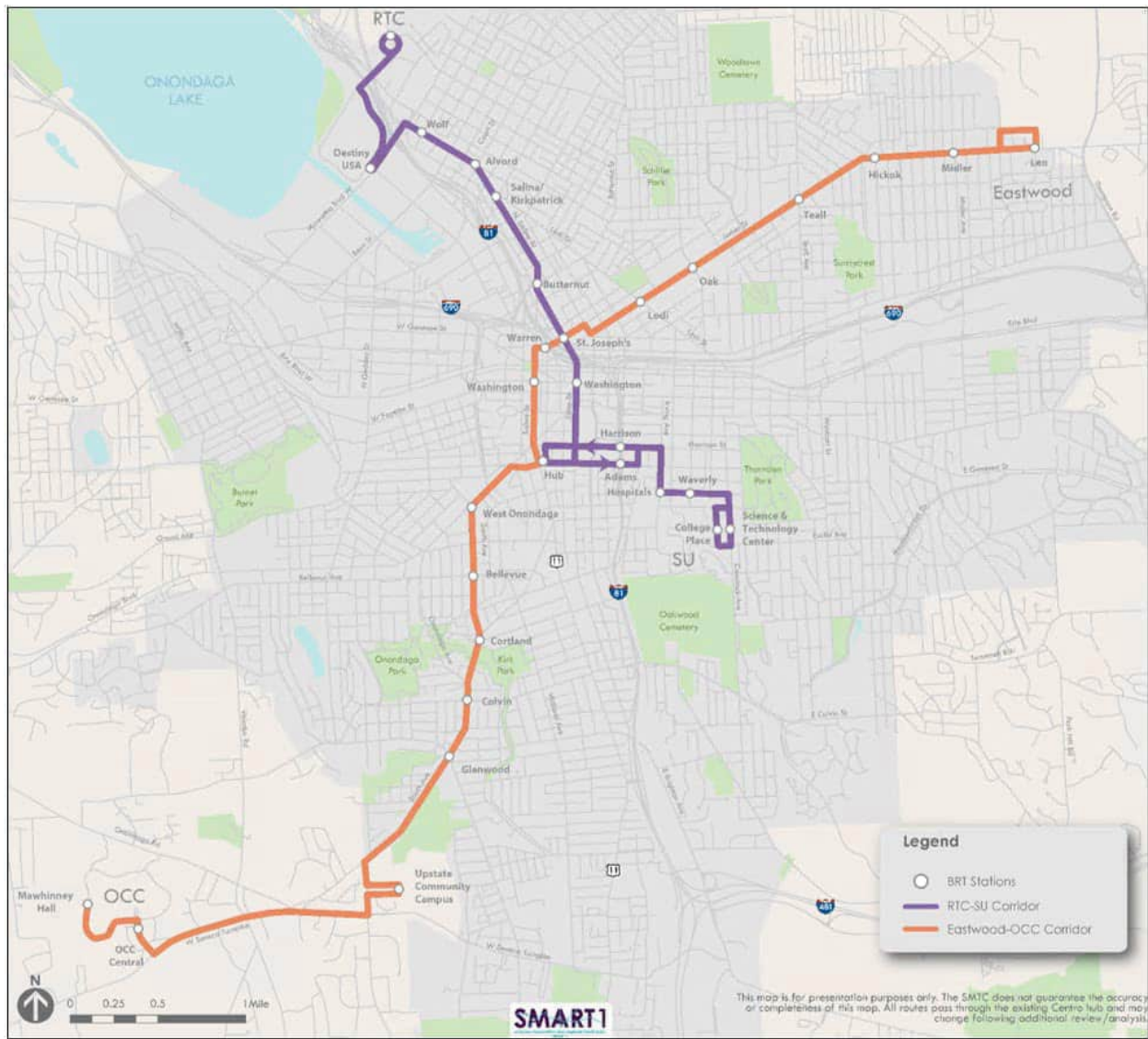
\* Multiple lines go to Destiny USA during the AM peak.

\* The AM headway to Destiny USA from all routes is approximately 15 minutes.

- **New express transit route along I81**
  - o stops at the following Park-n-Ride facilities
    - I-81 & Taft Road
    - I-81 & I-481
    - I-81 & RT 31
    - I-81 & Bartel Road (in Brewerton)
    - I-81 & RT 49 (in Central Square)
- **New BRT routes with identified stops**
  - o See map from SMART study below



- Added as additional bus service on these corridors
- The services have 10-minute headways





## **Mid-Term Projects (2040) - Included in Regional Travel Demand Model**

### **NYS DOT**

- **I-81 Interchange at Rt 31**
  - To improve capacity issues there will be a complete interchange replacement. The interchange will be upgraded from the current configuration to a cloverleaf interchange. Remove Crabtree access to Route 31. End Pardee at Cracker Barrel. Use Carmenica Drive as access from Pardee to Lakeshore.
- **Intersection improvements at NY 5 and NY 257**
  - Include basic intersection capacity improvements

### **OCDOT**

- **Buckley Rd shared turn lane and Buckley at Bear intersection upgrades**
  - Addition of a shared turn lane along the entire length of Buckley Road (from Old Liverpool Road to Morgan Road) – not included in model. The intersection of Buckley/Bear will be expanded with the addition of EB left, EB thru and NB left turn lanes.
- **7th North Street at Buckley Rd intersection upgrades**
  - The intersection of Seventh North/Buckley will be upgraded with the addition of SB and EB lefts, and NB and SB thru lanes

### **City of Syracuse**

- **James Street three lane cross section from State to Grant and Shotwell**
  - Change from 2 lanes each direction to 1 lane each direction. Center turn lane (not included in regional model), transition to left-turn only lanes at signalized intersections.
- **Conversion of downtown streets to 2-way**
  - Alternative 2b from study - <https://smtcmpo.org/partner/downtown-syracuse-two-way-feasibility-technical-analysis/>
  - Jefferson St
    - Montgomery to State – 1NB 1SB lane
  - Montgomery Street (North of Jefferson)
    - Erie to Water – 2NB 1SB lanes
    - Water to Washington – 1NB 1SB lane
    - Washington to Fayette – 2NB 1SB lanes
    - Fayette to Jefferson – 1NB 1SB lane
  - Montgomery Street (South of Jefferson)
    - Jefferson to Adams – 1NB 1SB lane
  - Warren Street
    - Willow to Washington – 1NB 1SB lane
  - Clinton Street
    - Herald to Water – 1NB 2SB lanes



- Water to Washington – 1NB 3SB lanes
  - Washington to Fayette – 2NB 1SB lanes
  - Fayette to Dickerson – 1NB 1SB lane
  - Dickerson to Adams – 1NB 2SB lanes
- **Roundabout at James and Shotwell/Grant**
    - Roundabout
  - **Water St closure**
    - Close Water St from to S. Crouse to S. Beech

### **Mid-Term Projects (2040) - NOT Included in Regional Travel Demand Model**

The following projects were not included in the regional model because they could not be adequately represented in a meaningful way.

- **Rt 31 widening: center turn lane Morgan Rd to Rt 11**
- **Soule Road widening: center turn lane**
- **South Bay Rd: center turn lane Bear Road to Rt 31**
- **Henry Clay Blvd: center turn lane Wetzel Rd to Rt 31**
- **Kirkville Rd widening: center turn lane I-481 to Fremont Rd**
- **Commerce Blvd and Vine St intersection improvements and Vine St widening: center turn lane Thruway to Henry Clay Blvd**

### **Long-Term Projects (2050)**

- **None identified**



# MEMO

**TO:** Jason Deshaies  
**FROM:** Ben Swanson; Colin Smith  
**DATE:** May 4, 2023  
**SUBJECT:** SMTC Travel Demand Modeling for Micron

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On behalf of the Syracuse Metropolitan Council (SMTC), RSG has conducted a series of scenario model runs, using the SMTC Version 5.0 travel model, to assist ongoing analysis for the proposed Micron facility in Clay, NY.

The SMTC Version 5.0 travel model has a base-year of 2017. Future-year scenarios were previously developed for planning purposes to represent anticipated land-use and roadway conditions in 2030, 2040, and 2050. Each of these future-year scenarios were run with minor adjustments (removing previously assumed employment at the Micron site and previously assumed improvements at the SR-31 & Caughdenoy Road intersection) to serve as No Build reference scenarios.

The following model No Build scenario runs were included in this effort<sup>1</sup>:

1. 2017 No Build – Base-year model with no Micron investments.
2. 2030 No Build – includes 2030 regional employment projections and road network.
3. 2040 No Build – includes 2040 regional employment projections and road network.
4. 2050 No Build – includes 2050 regional employment projections and road network.

Micron Build scenarios were run by adding various levels of site employment, regional household growth, increased external trips to/from the site, and secondary household and employment growth to the established No Build scenarios. Build scenarios for various phases of site development were added onto No Build scenarios for the most appropriate No Build year available, rather than interpolating multiple new No Build scenarios for specific estimated development years.

The following model Build scenario runs were included in this effort:

1. 2025 Build – adds 2025 Micron land-use projections to 2030 No Build.

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<sup>1</sup> All scenarios remove previously assumed general employment assumptions for the Micron site and previously assumed roadway improvements at the SR-31 & Caughdenoy Road intersection, which have been included in prior planning efforts for other projects.



2. 2030 Build – adds 2030 Micron land-use projections to 2030 No Build.
3. 2036 Build – adds 2036 Micron land-use projections to 2040 No Build.
4. 2041 Build – adds 2041 Micron land-use projections to 2040 No Build.
5. 2044 Build – adds 2044 Micron land-use projections to 2050 No Build.

## **Regional Land Use Assumptions**

AKRF developed projections of Micron employee residence locations both within the modeled area and in nearby parts of Oswego, Madison, Cortland, and Cayuga counties outside of the model boundary.

For Micron workers and contractors with residence locations internal to the model, RSG added households to their residence zones that will produce additional trips and added employees to the Micron site that will attract work trips from residents, as indicated in the projections provided by AKRF.

For the remaining Micron employees and contractors projected to live outside the model area, additional internal-to-external (IX) and external-to-internal (XI) trips were needed to reflect travel by these individuals. By default, the model can generate IX and XI trips by balancing traffic counts at the external ends with either user-specified percentage of productions (for IX trips) or the sum of internal model attractions based on employment (for XI trips). RSG determined that simply adding employment to the Micron site and adjusting external counts to match the increase in external traffic would not reliably direct these trips to the Micron site without the need for significant modifications to trip distribution. RSG instead added the assumed work trips made by these external households to the Micron site as exogenous inputs in the form of new Micron externals matrices, by adding 2 trips per employee (XI for home to work and IX for work to home) to the trips matrix after trip distribution. These new Micron external trips were allocated to model external stations based on the total amount of external employment per cardinal direction (North, East, South, or West) provided by AKRF and proportionately to Base-Year 2017 external traffic levels at each station.

Additionally, AKRF provided estimates of secondary household growth at a zonal level, assumed to occur in response to increased economic activity created by the Micron development and their employees' households. These secondary-growth households were added to Build scenarios as presented by AKRF, and additional secondary employment was added to accompany these households by scaling No Build employment at the same rate as the increase in households projected by AKRF in each town.





## Allocation of Workers across the Micron Site

The future Micron site is represented by 2 traffic analysis zones (TAZs) in the SMTc model (1111 and 1112). Workers were allocated to these zones based on the expected construction phasing.

| SCENARIO YEAR | ZONE 1111 (WEST)                                    | ZONE 1112 (EAST)                                    |
|---------------|-----------------------------------------------------|-----------------------------------------------------|
| 2025          | 3/5 of construction jobs                            | 2/5 of construction jobs                            |
| 2030          | 3/5 of construction and all operations jobs         | 2/5 of construction jobs                            |
| 2036          | 2/5 of construction jobs and 1/2 of operations jobs | 3/5 of construction jobs and 1/2 of operations jobs |
| 2041          | 2/5 of construction jobs and 1/3 of operations jobs | 3/5 of construction jobs and 2/3 of operations jobs |
| 2044          | 1/4 of operations jobs                              | 3/4 of operations jobs                              |

For employees residing internally, these jobs were added to the Micron zones as specified above. For employees residing externally, the internal ends of the added IX/XI trips were allocated as shown above while the external ends were allocated to model externals as described above.

## Future Year Road Networks

The future year road networks are based on a master network design such that individual road projects may be included or excluded by the user. The following road projects were included in the future network scenarios:

| SCENARIO YEAR | INCLUDED PROJECTS                                                                                                                                                                                                                                                                                                                              |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2017          | <i>Base network with no projects</i>                                                                                                                                                                                                                                                                                                           |
| 2030          | <ul style="list-style-type: none"> <li>- Route 370 at John Glenn Blvd intersection improvements</li> <li>- Onondaga Lake Parkway safety improvements</li> <li>- Reconstruct Rt 11 at Rt 49 intersection</li> <li>- NY 31 at Thompson Rd and South Bay Rd intersection improvements</li> <li>- Route 481 NB Off-Ramp at Circle Drive</li> </ul> |



- Buckley Road from Hopkins Rd to Taft Rd Improvements
- N, S, E, W corridors interconnect expansion
- For Build runs, additional centroid connectors were added to the Micron site for the Caughdenoy Rd service entrance and Rt 11 access

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*Items listed above plus:*

- |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2040 | <ul style="list-style-type: none"> <li>- I-81 Interchange at Rt 31</li> <li>- Intersection improvements at NY 5 and NY 257</li> <li>- Buckley Rd shared turn lane and Buckley at Bear intersection upgrades</li> <li>- 7th North Street at Buckley Rd intersection upgrades</li> <li>- James Street three lane cross section from State to Grant and Shotwell</li> <li>- Conversion of downtown streets to 2-way</li> <li>- Roundabout at James and Shotwell/Grant</li> <li>- Water St closure</li> <li>- For Build runs, additional centroid connectors were added to the Micron site for Rt 31 east access</li> </ul> |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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|      |                                  |
|------|----------------------------------|
| 2050 | <i>All projects listed above</i> |
|------|----------------------------------|

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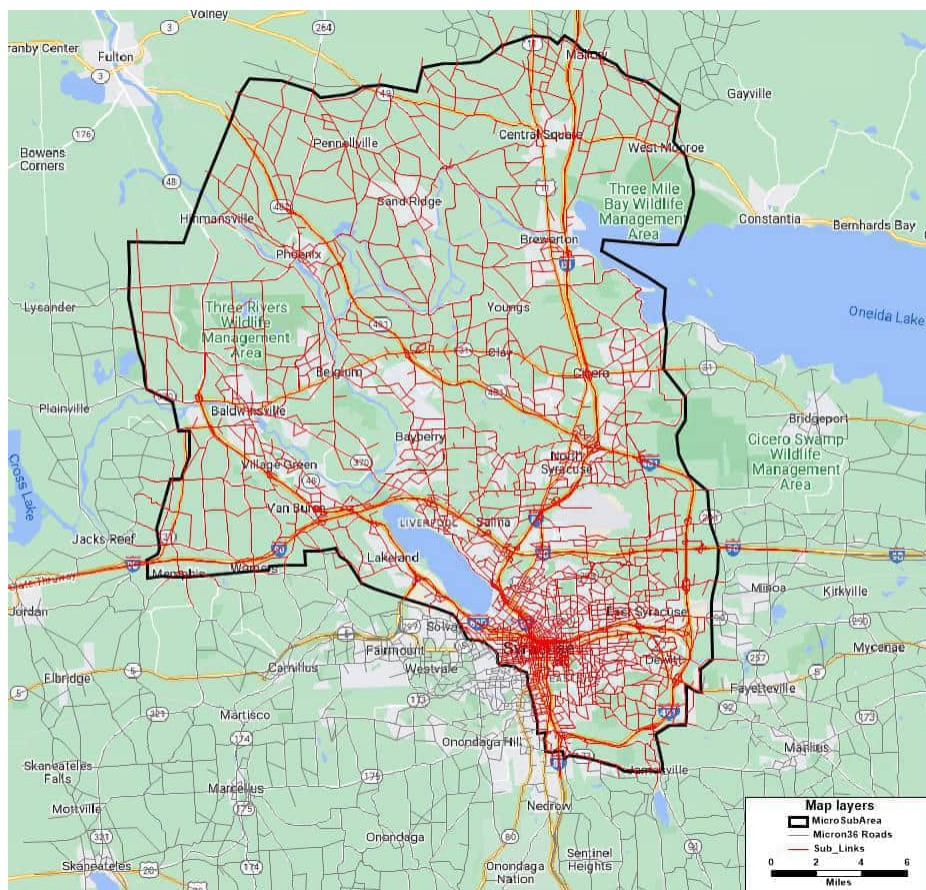
While previous modelling efforts for long-range planning have included an assumed intersection improvement at the SR-31 & Caughdenoy Road, this project was not included in any analysis scenarios at the request of the project team.

## **Subarea Analysis**

RSG conducted subarea analyses on all scenario runs to assist in translating regional model outputs to the dimensions of a smaller Visum model currently in development by WSP. Figure 1 presents the subarea provided by WSP for this analysis and the resulting selection set of model roadways created by the subarea analysis.



**FIGURE 1: SUBAREA SELECTION MAP**



Subarea analyses were conducted using the TransCAD Multi-Modal Multi-Class Subarea Analysis module for the AM (7:00-8:00) and PM (17:00-18:00) peak hours.

Peak hour demand from the hourAutoTrips.mtx model output assigned to the output network using the output scenario networks and .net files for the subarea analysis. Because the subarea analysis module in TransCAD does not support the Israel Institute of Transportation Planning and Research (IITPR) volume delay function implemented in the SMTC travel model, the precise model assignment for each scenario could not be recreated within the subarea analysis. Instead, following exploratory analysis to best match the model assignment, the AM or PM congested travel times were used as input to the Bureau of Public Roads (BPR) volume delay function within the subarea analysis model along with model link capacities and default parameters for alpha and beta values.

## Analysis Outputs

The following output files are provided for each scenario run:

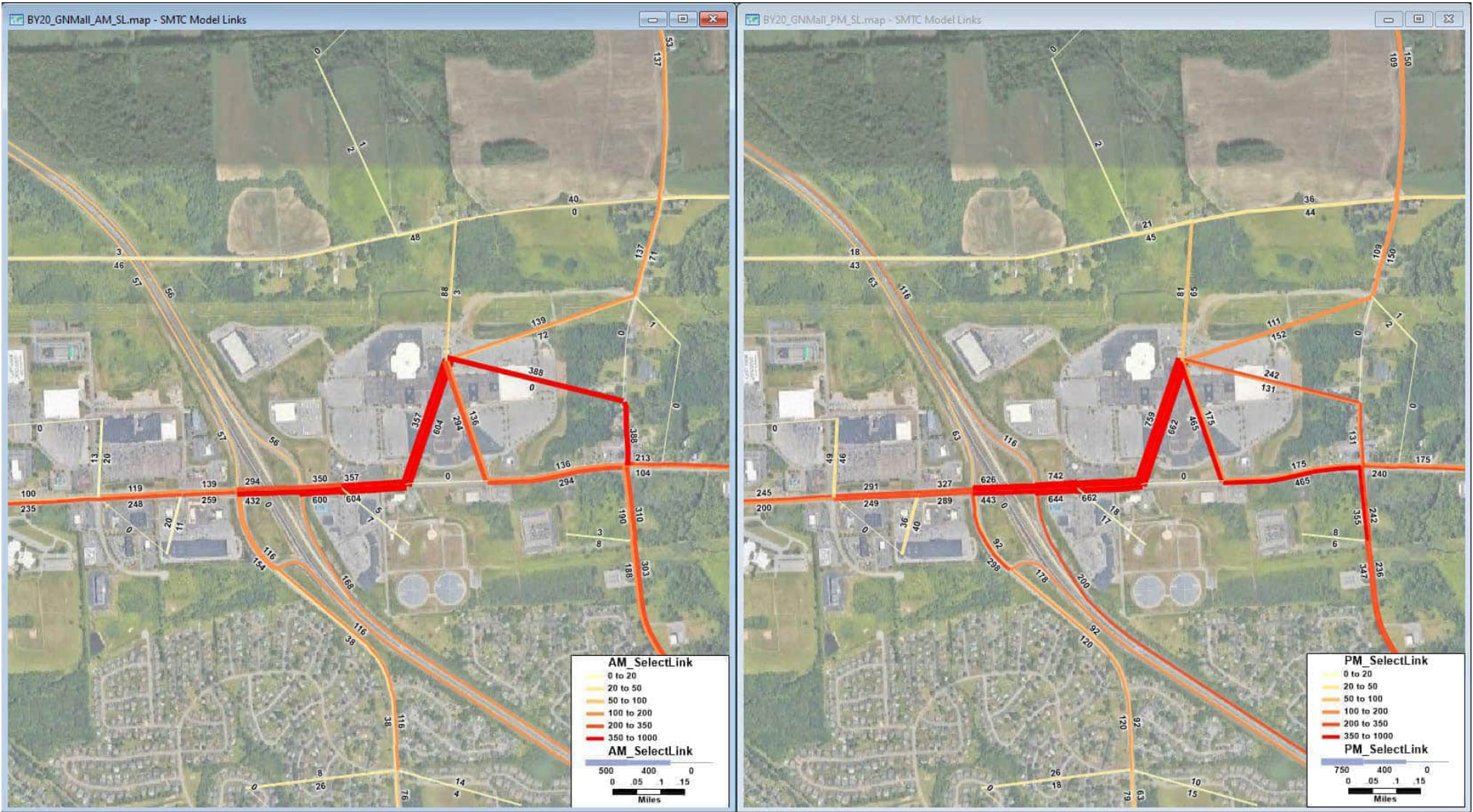
- The hourly assignment matrices from the full model run (*hourAutoTrips\_<scenarioYY>.mtx*)
- AM peak hour subarea OD matrix (*AM\_MMA\_Subarea OD.mtx*)



- AM peak hour assigned subarea link flows (*AM\_MMA\_LinkFlows.bin*)
- PM peak hour subarea OD matrix (*PM\_MMA\_Subarea OD.mtx*)
- PM peak hour assigned subarea link flows (*PM\_MMA\_LinkFlows.bin*)
- Subarea network export (<scenario>\_<YY>\_subarea\_links.dbd)
  - o Includes network link and node ids to accompany subarea OD outputs
  - o Includes original model scenario network attributes and assignment results for reference



Figure 1A: Local View Select Link Analysis - 2020 Base + GN Mall Redevelopment

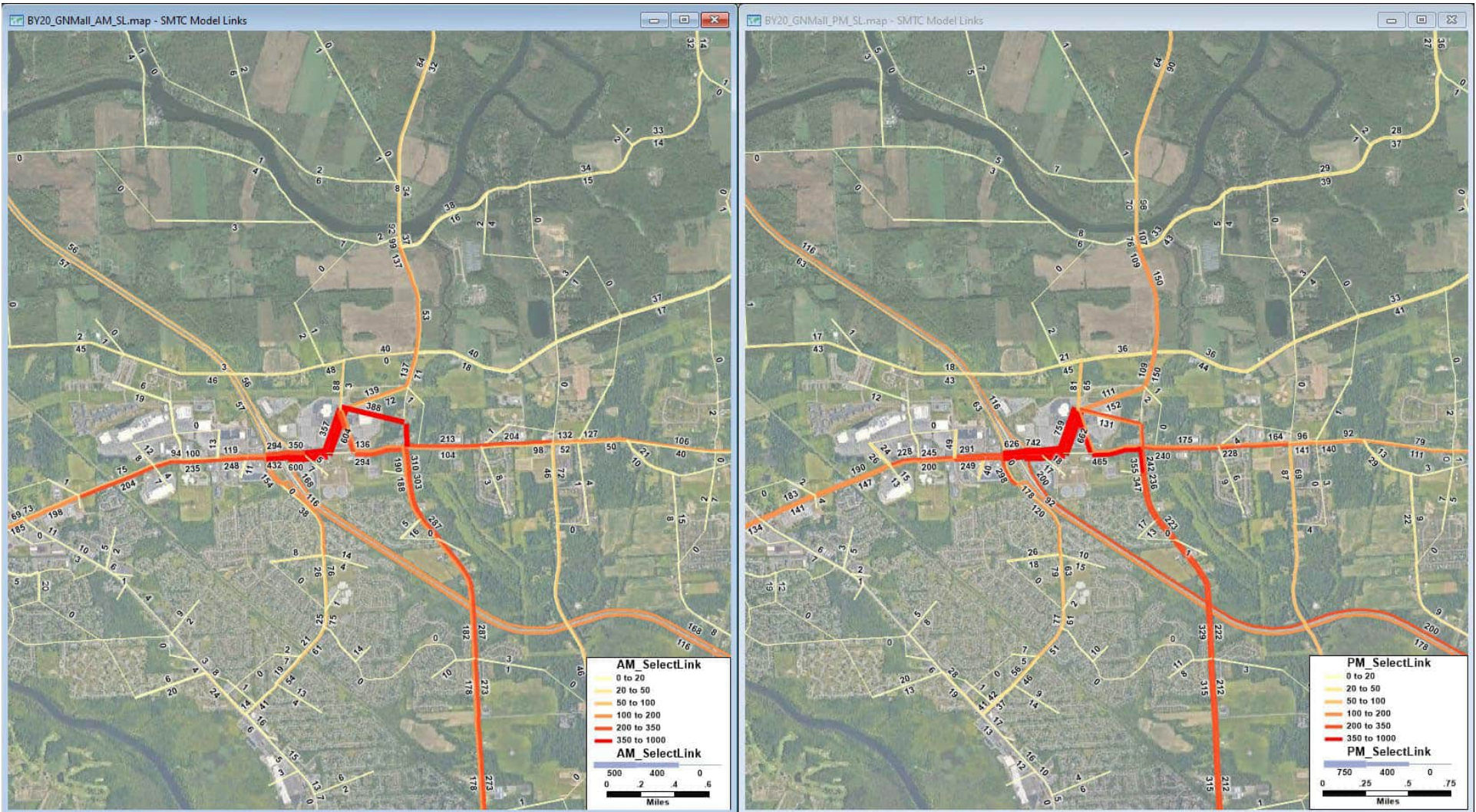


AM Peak Hour Volumes (7am-8am)

PM Peak Hour Volumes (4pm-5pm)



Figure 1B: Neighborhood View Select Link Analysis - 2020 Base + GN Mall Redevelopment

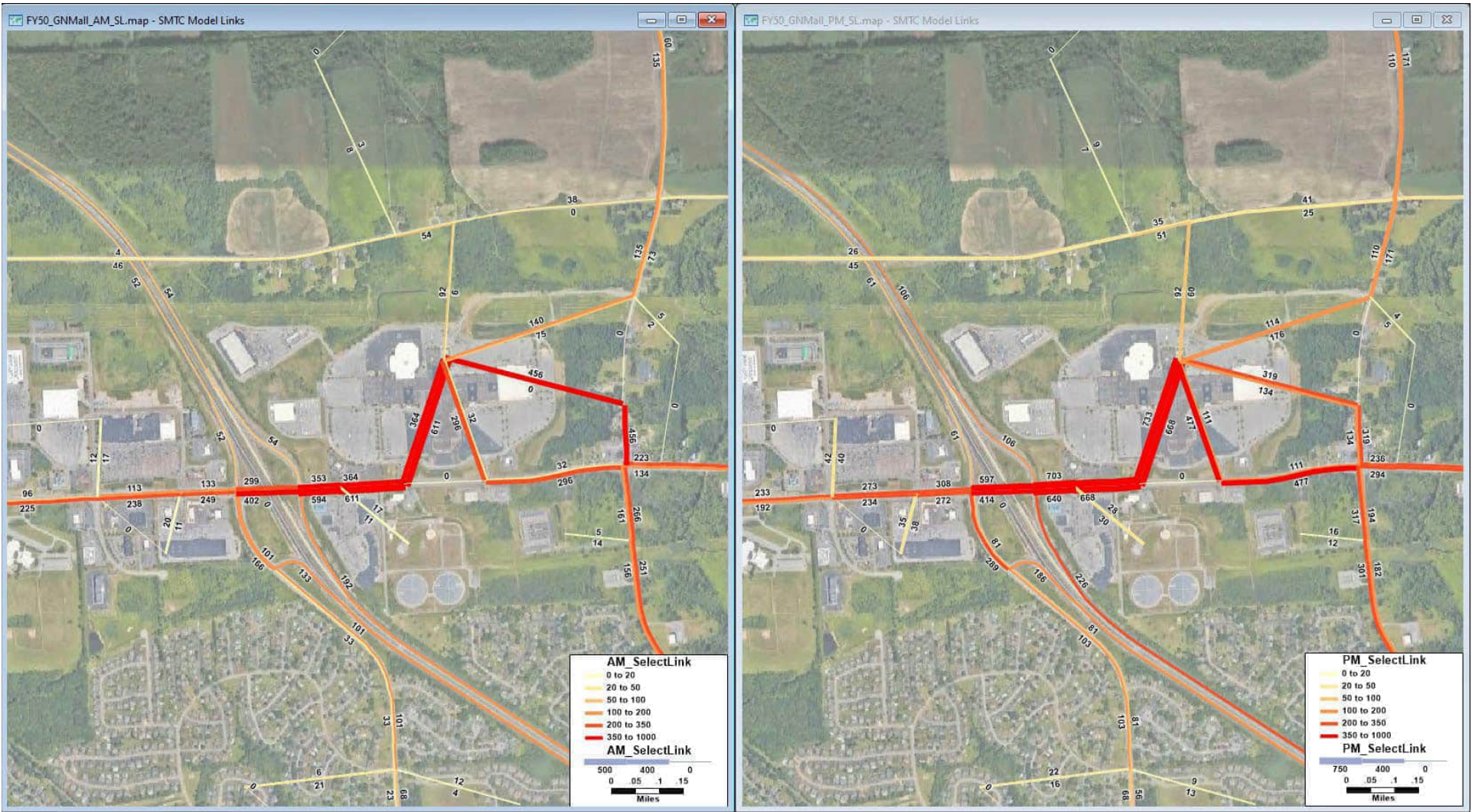


AM Peak Hour Volumes (7am-8am)

PM Peak Hour Volumes (4pm-5pm)



Figure 2A: Local View Select Link Analysis - 2050 Future + GN Mall Redevelopment

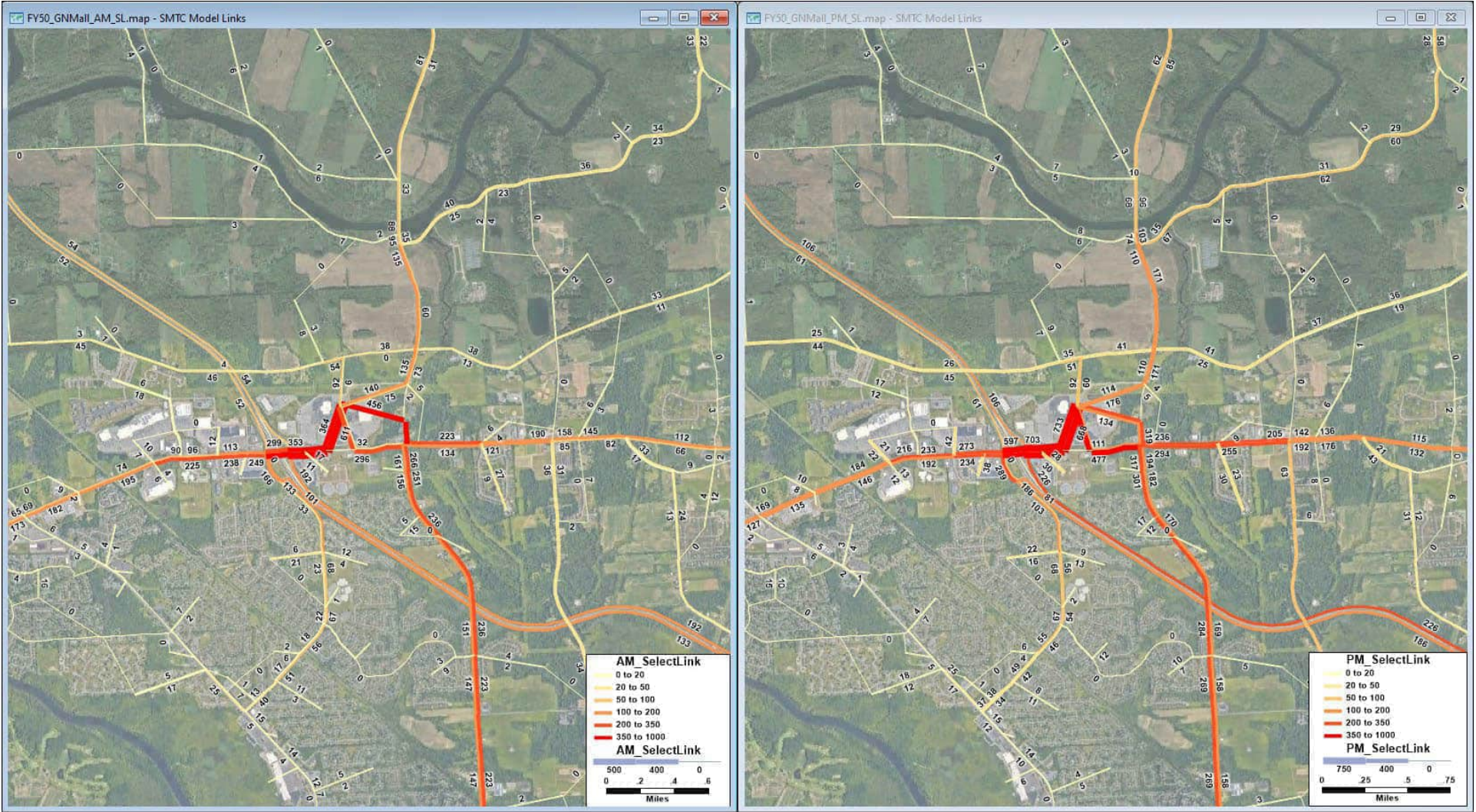


AM Peak Hour Volumes (7am-8am)

PM Peak Hour Volumes (4pm-5pm)



Figure 2B: Neighborhood View Select Link Analysis - 2050 Future + GN Mall Redevelopment

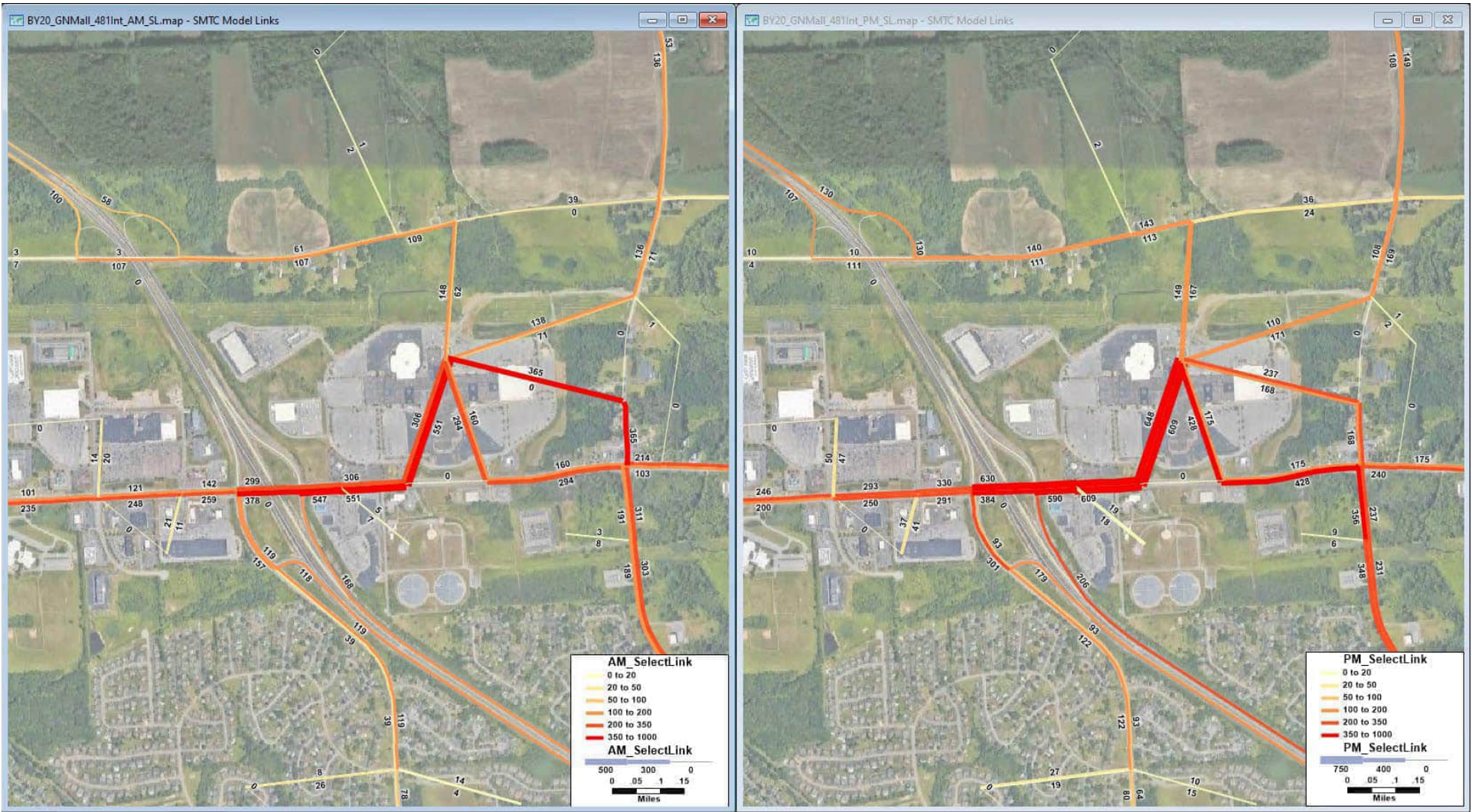


AM Peak Hour Volumes (7am-8am)

PM Peak Hour Volumes (4pm-5pm)

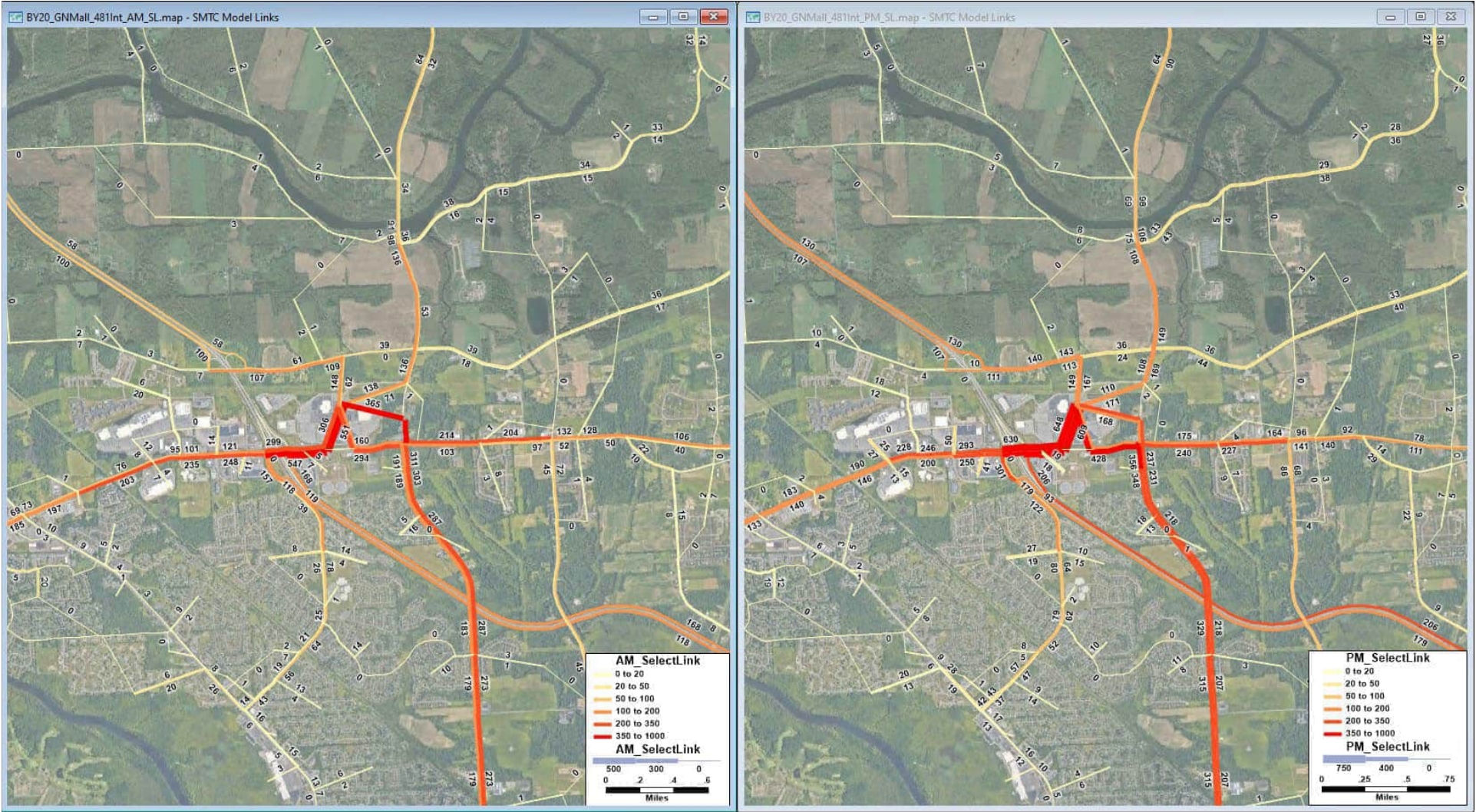


Figure 3A: Local View Select Link Analysis - 2020 Base + GN Mall Redevelopment + Interchange at Verplank





**Figure 3B: Neighborhood View Select Link Analysis – 2020 Base + GN Mall Redevelopment + Interchange at Verplank**

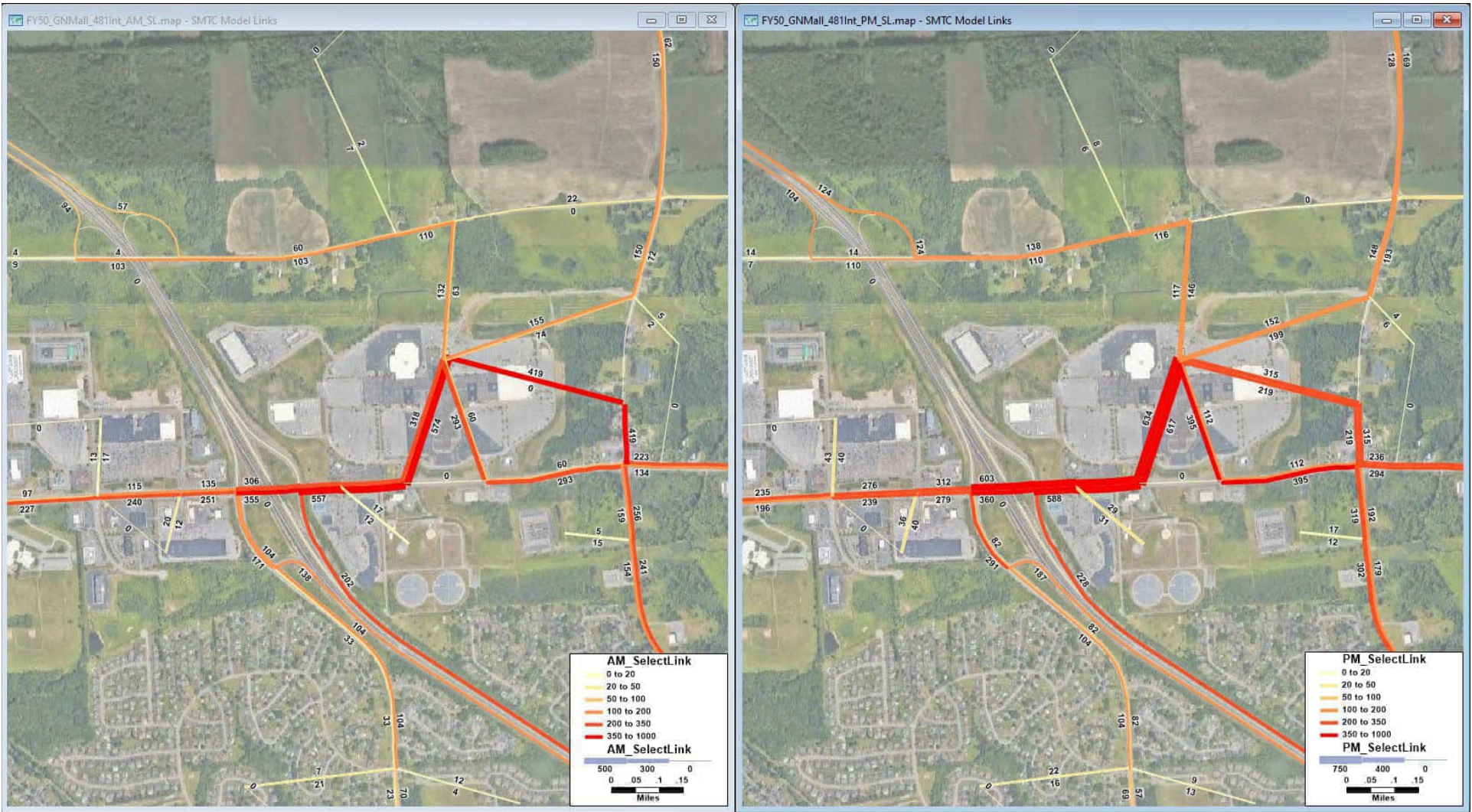


**AM Peak Hour Volumes (7am-8am)**

**PM Peak Hour Volumes (4pm-5pm)**



Figure 4A: Local View Select Link Analysis – 2050 Future + GN Mall Redevelopment + Interchange at Verplank

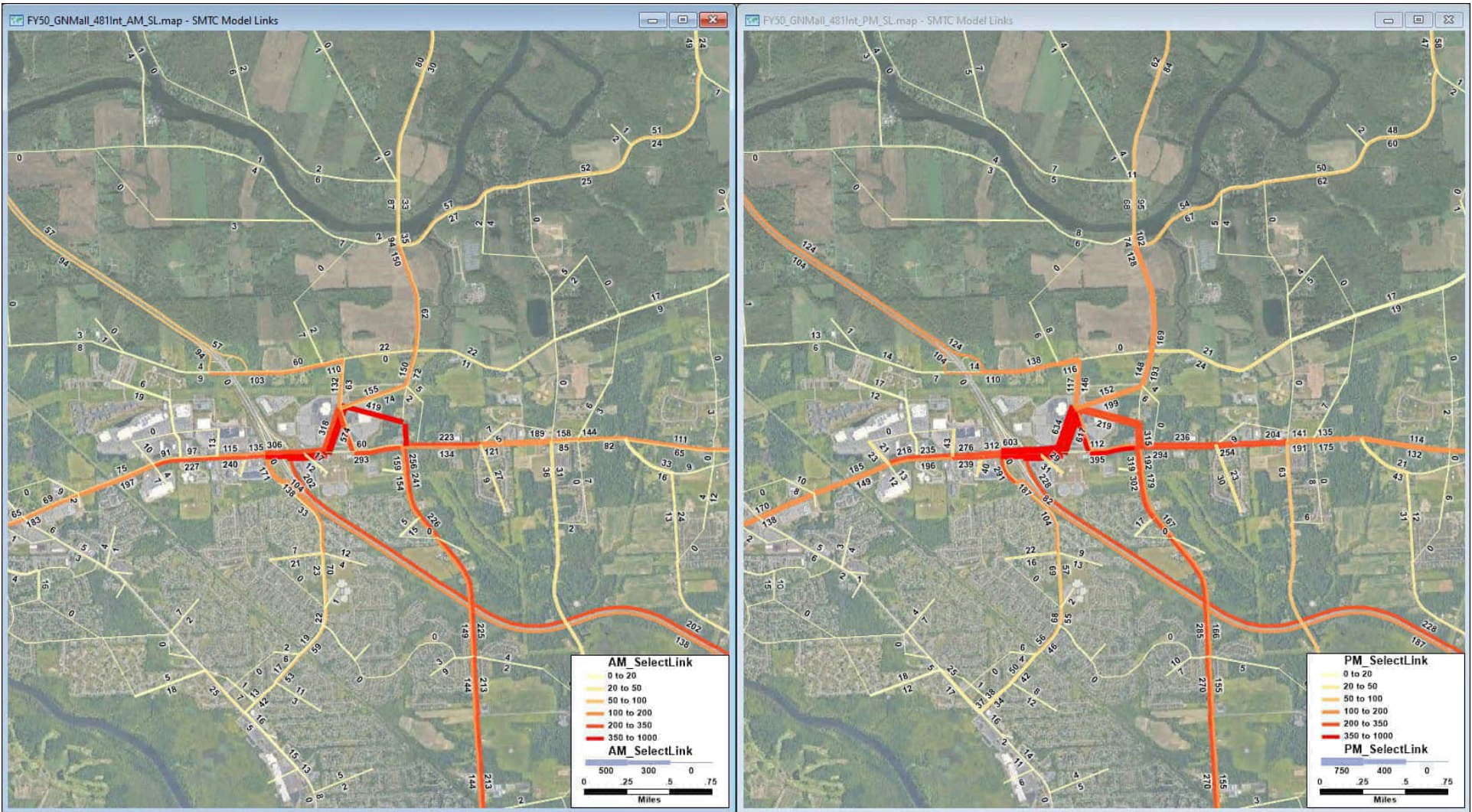


AM Peak Hour Volumes (7am-8am)

PM Peak Hour Volumes (4pm-5pm)



**Figure 4B: Neighborhood View Select Link Analysis – 2050 Future + GN Mall Redevelopment + Interchange at Verplank**



**AM Peak Hour Volumes (7am-8am)**

**PM Peak Hour Volumes (4pm-5pm)**





## MEMORANDUM

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**TO:** Ethan Smolinsky  
**FROM:** Jason Deshaies *JRD*  
**DATE:** 3/27/2024  
**RE:** SMTC Great Northern Mall Redevelopment Select Link Analysis

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The Syracuse Metropolitan Transportation Council (SMTC) was asked by the New York State Department of Transportation (NYSDOT) to assist with a select link analysis for the Great Northern Mall redevelopment area Traffic Analysis Zone (TAZ). This memorandum serves as documentation of the files being transmitted.

As requested, the SMTC utilized the most current version of the regional travel demand model to do a select link analysis for the Great Northern Mall (GNM) TAZ. The model used for this effort is not the same as the version used for the Micron no-build analysis (completed in early 2023) and does not include all the same details that are included in the model used for the Micron build alternatives analysis. The standard SMTC 2020 Base and 2050 Future models were used for this analysis to simplify the process and meet the tight schedule as requested. Below are the details of what is included in this package.

The SMTC added the provided GNM redevelopment land use details to the 2020 existing conditions base as well as the 2050 future scenario. Both models were also run with the addition of a new interchange at NY481 and Verplank Road to see how that might generally impact traffic patterns. This is not intended to be an analysis of the NY481/Verplank Road interchange.

The purpose of this effort is to provide trip distribution results, or the relative trip flows by direction, to the site. The total peak period trips to the site will not match the consultant's estimates because the standard SMTC model trip generation and time-of-day assumptions were used for these runs. However, the consultant could factor, or redistribute, its own forecasts based on the SMTC model's trip tables and select link results. It should be noted that the standard SMTC model trip distribution assumptions were used for these runs, which does not consider if the site holds special regional appeal (like Destiny USA).

As discussed on the last coordination call, the GNM redevelopment household and employment details as well as anticipated transportation mitigation should be incorporated in the more detailed Micron build scenario modeling effort. Due to the size of the proposed redevelopment, it may be more appropriate to treat the GNM TAZ as a special generator for that separate effort.

The following model runs were completed by the SMTC, all these runs include a select link analysis for the GNM connectors:



1. 2020 Base + GNM Redevelopment (details below)
2. 2020 Base + GNM Redevelopment (details below) + New Interchange at 481 & Verplank
3. 2050 Base + GNM Redevelopment (details below)
4. 2050 Base + GNM Redevelopment (details below) + New Interchange at 481 & Verplank

### GNM Redevelopment Details

- New centroid connectors for the GNM TAZ were added to generally represent the proposed new access locations.
- The internal mall roads were removed as model links and the connectors were relocated to connect directly to the surrounding road system to be consistent with all connectors.
- Added 1,452 total households and adjusted the household size and number of vehicle classification for the TAZ to better represent the proposed apartment breakdown:
  - 799 - 1-bedroom apartments
  - 653 - 2-bedroom apartments
- Total number of jobs by sector are an input to the regional model but were not provided by the consultant teams. The SMTC estimated the number of jobs for **TAZ 3073** based on the proposed square feet:

| Sector                                     | SF               | Estimated Jobs |
|--------------------------------------------|------------------|----------------|
| NAICS 44 - Retail Trade                    | 425,225          | 910            |
| NAICS 62 - Health Care & Social Assistance | 818,913          | 1,800          |
| NAICS 71 - Arts, Entertainment, Recreation | 67,890           | 80             |
| NAICS 72 - Accommodation & Food Service    | 20,000           | 600*           |
| <b>Total</b>                               | <b>1,332,028</b> | <b>3,390</b>   |

\*This also includes jobs for 875 hotel rooms not included in the SF

### File Transmittal

Please find the following files included with this document.

- 1) Maps displaying AM and PM peak hour directional volumes to and from the GNM TAZ for all four scenarios at local and neighborhood scales.
- 2) Loaded Model Network (*NetworkOut.dbd*) for each scenario – includes directional and peak hour volume select link output fields:
  - AB/BA\_AM\_SelectLink
  - AB/BA\_PM\_SelectLink



3) An assignment matrix (*hourAutoTrips.mtx*) for each scenario – includes trips between each TAZ pair.

- GNM redevelopment area is within TAZ 3073.
- A TAZ boundary file is included for reference.

A link to the files will be provided via email. Please confirm receipt of this data and let us know if you have any questions.

CC: James D'Agostino, SMTc  
Howard McCulloch , NYSDOT



| TAZ | CBD        | HH_Includ | HH  | HH_GQ | Population | Vehicles | Bicycle & F | Agriculture | Bus_Legal | Communic | Constructi | Eat_Drink | Education | FIRE | Governme | Health | Hotels_Loc | Manufactu | Mining | NonClassif | Retail | Trad | Service | Social | Servi | Transport | Utilities | Wholesale | Total |
|-----|------------|-----------|-----|-------|------------|----------|-------------|-------------|-----------|----------|------------|-----------|-----------|------|----------|--------|------------|-----------|--------|------------|--------|------|---------|--------|-------|-----------|-----------|-----------|-------|
| 1   | Tully      | 0         | 217 | 217   | 0          | --       | --          | 3.114187    | 0         | 49       | 0          | 29        | 0         | 0    | 0        | 0      | 0          | 0         | 0      | 0          | 0      | 0    | 0       | 0      | 0     | 0         | 20        | 98        |       |
| 2   | Tully      | 0         | 316 | 316   | 0          | --       | --          | 3.856041    | 0         | 0        | 0          | 31        | 58        | 284  | 0        | 0      | 0          | 17        | 0      | 0          | 8      | 80   | 120     | 71     | 25    | 0         | 27        | 721       |       |
| 3   | Tully      | 0         | 133 | 133   | 0          | --       | --          | 5.339095    | 0         | 0        | 0          | 8         | 0         | 0    | 0        | 0      | 0          | 0         | 0      | 0          | 0      | 0    | 0       | 0      | 0     | 0         | 0         | 8         |       |
| 4   | Spafford   | 0         | 280 | 280   | 0          | --       | --          | 1.260512    | 0         | 0        | 0          | 0         | 0         | 0    | 0        | 0      | 0          | 0         | 0      | 0          | 0      | 13   | 7       | 0      | 0     | 0         | 0         | 20        |       |
| 5   | Tully      | 0         | 305 | 303   | 2          | --       | --          | 5.3391      | 1         | 13       | 0          | 0         | 25        | 79   | 6        | 0      | 7          | 0         | 0      | 0          | 0      | 2    | 3       | 32     | 16    | 0         | 0         | 184       |       |
| 6   | Fabius     | 0         | 125 | 125   | 0          | --       | --          | 0.56        | 1         | 6        | 0          | 4         | 0         | 217  | 0        | 0      | 0          | 0         | 3      | 0          | 0      | 0    | 9       | 0      | 0     | 0         | 0         | 240       |       |
| 7   | Fabius     | 0         | 157 | 157   | 0          | --       | --          | 0.56        | 150       | 2        | 0          | 8         | 6         | 0    | 2        | 0      | 15         | 0         | 23     | 0          | 0      | 0    | 44      | 5      | 2     | 0         | 0         | 257       |       |
| 8   | Tully      | 0         | 112 | 112   | 0          | --       | --          | 5.339119    | 0         | 35       | 0          | 17        | 0         | 0    | 0        | 0      | 0          | 0         | 0      | 0          | 0      | 0    | 0       | 0      | 0     | 0         | 0         | 52        |       |
| 9   | Fabius     | 0         | 198 | 198   | 0          | --       | --          | 3.36        | 3         | 3        | 0          | 0         | 0         | 0    | 0        | 12     | 0          | 47        | 0      | 0          | 0      | 3    | 0       | 0      | 0     | 0         | 0         | 68        |       |
| 10  | Fabius     | 0         | 248 | 248   | 0          | --       | --          | 3.36        | 0         | 0        | 0          | 20        | 0         | 0    | 0        | 0      | 0          | 20        | 0      | 0          | 0      | 0    | 0       | 0      | 0     | 0         | 0         | 40        |       |
| 11  | Otisco     | 0         | 113 | 113   | 0          | --       | --          | 2.045728    | 0         | 0        | 0          | 6         | 4         | 0    | 0        | 0      | 0          | 0         | 0      | 0          | 0      | 9    | 12      | 0      | 0     | 2         | 0         | 33        |       |
| 12  | Otisco     | 0         | 384 | 384   | 0          | --       | --          | 2.045728    | 0         | 15       | 0          | 0         | 22        | 0    | 0        | 0      | 0          | 0         | 0      | 0          | 0      | 7    | 0       | 0      | 12    | 0         | 0         | 56        |       |
| 13  | Otisco     | 0         | 148 | 148   | 0          | --       | --          | 2.045728    | 4         | 6        | 0          | 8         | 0         | 0    | 0        | 45     | 0          | 0         | 0      | 0          | 0      | 0    | 47      | 0      | 0     | 4         | 0         | 113       |       |
| 14  | Otisco     | 0         | 176 | 176   | 0          | --       | --          | 0           | 4         | 0        | 0          | 0         | 0         | 0    | 0        | 0      | 0          | 0         | 0      | 0          | 0      | 0    | 0       | 11     | 0     | 13        | 28        |           |       |
| 15  | Otisco     | 0         | 157 | 157   | 0          | --       | --          | 0           | 0         | 0        | 0          | 0         | 0         | 0    | 0        | 10     | 0          | 0         | 0      | 0          | 0      | 0    | 0       | 0      | 25    | 0         | 25        | 60        |       |
| 16  | Spafford   | 0         | 232 | 232   | 0          | --       | --          | 0.553661    | 0         | 0        | 0          | 20        | 53        | 0    | 0        | 0      | 0          | 0         | 32     | 0          | 0      | 0    | 0       | 0      | 0     | 0         | 0         | 105       |       |
| 17  | Spafford   | 0         | 212 | 212   | 0          | --       | --          | 0.553661    | 0         | 0        | 0          | 0         | 0         | 0    | 47       | 0      | 0          | 0         | 0      | 0          | 0      | 0    | 0       | 0      | 0     | 0         | 0         | 47        |       |
| 18  | Lafayette  | 0         | 89  | 89    | 0          | --       | --          | 0.815651    | 0         | 0        | 0          | 0         | 0         | 0    | 0        | 0      | 0          | 0         | 8      | 0          | 0      | 0    | 0       | 0      | 0     | 0         | 0         | 8         |       |
| 19  | Lafayette  | 0         | 351 | 351   | 0          | --       | --          | 0.815672    | 0         | 19       | 0          | 84        | 21        | 0    | 6        | 0      | 37         | 0         | 0      | 0          | 0      | 10   | 35      | 0      | 0     | 0         | 43        | 255       |       |
| 20  | Lafayette  | 0         | 159 | 154   | 5          | --       | --          | 1.973684    | 0         | 0        | 0          | 0         | 0         | 0    | 2        | 0      | 0          | 0         | 5      | 0          | 0      | 0    | 2       | 0      | 0     | 0         | 0         | 9         |       |
| 21  | Lafayette  | 0         | 197 | 197   | 0          | --       | --          | 1.973684    | 0         | 7        | 0          | 5         | 8         | 5    | 15       | 0      | 0          | 0         | 0      | 0          | 4      | 4    | 7       | 14     | 0     | 0         | 0         | 69        |       |
| 22  | Pompey     | 0         | 239 | 239   | 0          | --       | --          | 4.808743    | 0         | 0        | 0          | 14        | 0         | 0    | 0        | 0      | 0          | 0         | 0      | 0          | 0      | 0    | 14      | 0      | 0     | 0         | 0         | 28        |       |
| 23  | Pompey     | 0         | 245 | 245   | 0          | --       | --          | 4.808743    | 2         | 0        | 0          | 0         | 0         | 0    | 0        | 17     | 0          | 0         | 0      | 0          | 0      | 2    | 12      | 0      | 0     | 0         | 0         | 33        |       |
| 24  | Pompey     | 0         | 127 | 127   | 0          | --       | --          | 4.808743    | 15        | 12       | 0          | 0         | 0         | 0    | 0        | 0      | 0          | 0         | 0      | 0          | 0      | 0    | 0       | 0      | 0     | 0         | 0         | 27        |       |
| 25  | Skaneatele | 0         | 400 | 400   | 0          | --       | --          | 1.678236    | 15        | 12       | 0          | 10        | 0         | 0    | 7        | 0      | 0          | 22        | 0      | 0          | 0      | 10   | 15      | 0      | 37    | 0         | 0         | 128       |       |
| 26  | Skaneatele | 0         | 171 | 167   | 4          | --       | --          | 1.678236    | 0         | 0        | 0          | 10        | 0         | 0    | 0        | 0      | 7          | 346       | 0      | 0          | 0      | 46   | 0       | 0      | 0     | 0         | 20        | 429       |       |
| 27  | Lafayette  | 0         | 120 | 120   | 0          | --       | --          | 5.086391    | 0         | 0        | 0          | 0         | 0         | 0    | 0        | 0      | 0          | 0         | 0      | 0          | 0      | 0    | 0       | 0      | 0     | 0         | 70        | 70        |       |
| 28  | Lafayette  | 0         | 55  | 55    | 0          | --       | --          | 5.086385    | 0         | 2        | 1          | 1         | 1         | 3    | 2        | 1      | 3          | 0         | 3      | 0          | 0      | 3    | 2       | 1      | 1     | 0         | 1         | 25        |       |
| 29  | Lafayette  | 0         | 251 | 251   | 0          | --       | --          | 5.086385    | 0         | 84       | 0          | 0         | 78        | 0    | 0        | 0      | 0          | 0         | 0      | 0          | 0      | 39   | 0       | 0      | 128   | 0         | 0         | 329       |       |
| 30  | Pompey     | 0         | 120 | 120   | 0          | --       | --          | 0.831937    | 2         | 0        | 0          | 5         | 10        | 7    | 0        | 0      | 0          | 0         | 0      | 0          | 0      | 6    | 22      | 0      | 0     | 7         | 5         | 64        |       |
| 31  | Pompey     | 0         | 94  | 89    | 5          | --       | --          | 0.831937    | 0         | 10       | 0          | 2         | 2         | 2    | 0        | 0      | 0          | 0         | 0      | 0          | 0      | 2    | 6       | 0      | 0     | 2         | 0         | 26        |       |
| 32  | Pompey     | 0         | 80  | 80    | 0          | --       | --          | 0.831937    | 0         | 0        | 0          | 0         | 0         | 0    | 0        | 0      | 0          | 0         | 0      | 0          | 0      | 0    | 0       | 0      | 0     | 0         | 0         | 0         |       |
| 33  | Pompey     | 0         | 150 | 150   | 0          | --       | --          | 0.831937    | 0         | 0        | 0          | 2         | 2         | 2    | 0        | 0      | 0          | 0         | 0      | 0          | 0      | 2    | 6       | 0      | 0     | 2         | 1         | 17        |       |
| 34  | Pompey     | 0         | 59  | 59    | 0          | --       | --          | 0.831973    | 0         | 1        | 0          | 1         | 1         | 0    | 1        | 7      | 0          | 0         | 0      | 0          | 0      | 0    | 1       | 0      | 0     | 0         | 0         | 12        |       |
| 35  | Pompey     | 0         | 51  | 51    | 0          | --       | --          | 0.831973    | 0         | 0        | 0          | 0         | 0         | 0    | 0        | 0      | 0          | 0         | 0      | 0          | 0      | 14   | 0       | 0      | 0     | 0         | 0         | 14        |       |
| 36  | Marcellus  | 0         | 102 | 102   | 0          | --       | --          | 3.67893     | 0         | 0        | 0          | 0         | 0         | 0    | 0        | 0      | 0          | 0         | 0      | 0          | 0      | 31   | 0       | 0      | 0     | 0         | 0         | 31        |       |
| 37  | Marcellus  | 0         | 23  | 23    | 0          | --       | --          | 3.67893     | 0         | 0        | 0          | 0         | 0         | 0    | 0        | 0      | 0          | 0         | 0      | 0          | 0      | 0    | 0       | 0      | 0     | 0         | 0         | 0         |       |
| 38  | Marcellus  | 0         | 80  | 80    | 0          | --       | --          | 3.67893     | 6         | 13       | 0          | 15        | 27        | 0    | 0        | 0      | 0          | 0         | 0      | 0          | 0      | 11   | 24      | 0      | 0     | 0         | 0         | 96        |       |
| 39  | Lafayette  | 0         | 253 | 253   | 0          | --       | --          | 5.060974    | 0         | 0        | 0          | 0         | 0         | 0    | 0        | 96     | 0          | 0         | 0      | 0          | 0      | 0    | 24      | 0      | 55    | 0         | 0         | 175       |       |
| 40  | Skaneatele | 0         | 296 | 293   | 3          | --       | --          | 1.828157    | 0         | 50       | 29         | 2         | 89        | 0    | 69       | 0      | 3          | 0         | 0      | 0          | 0      | 100  | 6       | 110    | 6     | 24        | 0         | 488       |       |
| 41  | Skaneatele | 0         | 17  | 17    | 0          | --       | --          | 1.828157    | 0         | 8        | 0          | 0         | 0         | 0    | 0        | 0      | 0          | 0         | 0      | 0          | 0      | 2    | 0       | 0      | 0     | 0         | 0         | 10        |       |
| 42  | Skaneatele | 0         | 212 | 212   | 0          | --       | --          | 1.828157    | 2         | 5        | 0          | 3         | 0         | 0    | 0        | 0      | 0          | 0         | 0      | 0          | 0      | 0    | 4       | 0      | 0     | 0         | 8         | 22        |       |
| 43  | Onondaga   | 0         | 120 | 120   | 0          | --       | --          | 0.734388    | 14        | 0        | 0          | 0         | 0         | 0    | 0        | 0      | 0          | 0         | 0      | 0          | 0      | 0    | 25      | 0      | 0     | 0         | 0         | 39        |       |
| 44  | Onondaga   | 0         | 216 | 216   | 0          | --       | --          | 0.734388    | 10        | 0        | 0          | 0         | 42        | 0    | 0        | 0      | 0          | 0         | 0      | 0          | 0      | 0    | 0       | 0      | 0     | 0         | 0         | 52        |       |
| 45  | Lafayette  | 0         | 83  | 83    | 0          | --       | --          | 5.086334    | 0         | 0        | 0          | 9         | 0         | 0    | 0        | 0      | 0          | 0         | 0      | 0          | 0      | 0    | 8       | 0      | 0     | 0         | 0         | 17        |       |
| 46  | Lafayette  | 0         | 76  | 76    | 0          | --       | --          | 5.08639     | 0         | 0        | 0          | 0         | 0         | 0    | 0        | 0      | 0          | 0         | 0      | 0          | 0      | 6    | 0       | 0      | 0     | 0         | 0         | 6         |       |
| 47  | Pompey     | 0         | 79  | 79    | 0          | --       | --          | 5.021834    | 1         | 0        | 0          | 2         | 1         | 0    | 0        | 0      | 0          | 0         | 0      | 0          | 1      | 0    | 8       | 0      | 1     | 0         | 3         | 17        |       |
| 48  | Pompey     | 0         | 279 | 272   | 7          | --       | --          | 5.021834    | 0         | 9        | 0          | 3         | 2         | 0    | 0        | 0      | 6          | 0         | 0      | 0          | 2      | 1    | 12      | 0      | 2     | 0         | 4         | 41        |       |
| 49  | Onondaga   | 0         | 76  | 72    | 4          | --       | --          | 1.445571    | 0         | 0        | 0          | 0         | 0         | 157  | 0        | 41     | 0          | 0         | 0      | 0          | 0      | 0    | 0       | 0      | 0     | 0         | 0         | 198       |       |
| 50  | Onondaga   | 0         | 92  | 92    | 0          | --       | --          | 1.445571    | 0         | 15       | 0          | 2         | 4         | 142  | 0        | 0      | 0          | 0         | 0      | 0          | 0      | 10   | 0       | 0      | 0     | 0         | 0         | 173       |       |
| 51  | Onondaga   | 0         | 225 | 225   | 0          | --       | --          | 1.445571    | 0         | 0        | 31         | 0         | 0         | 0    | 0        | 0      | 0          | 0         | 0      | 0          | 0      | 0    | 0       | 0      | 0     | 0         | 0         | 31        |       |
| 52  | Onondaga   | 0         | 6   | 6     | 0          | --       | --          | 1.445571    | 8         | 0        | 0          | 0         | 0         | 0    | 0        | 0      | 0          | 0         | 0      | 0          | 0      | 0    | 0       | 0      | 0     | 0         | 0         | 8         |       |
| 53  | Marcellus  | 0         | 111 | 111   | 0          | --       | --          | 4.437394    | 0         | 0        | 0          | 12        | 0         | 0    | 0        | 0      | 0          | 0         | 0      | 0          | 0      | 5    | 0       | 0      | 0     | 0         | 0         | 17        |       |
| 54  | Marcellus  | 0         | 183 | 183   | 0          | --       | --          | 4.437394    | 3         | 0        | 0          | 0         | 10        | 0    | 0        | 0      | 0          | 0         | 0      | 0          | 0      | 2    | 1       | 0      | 0     | 0         | 0         | 16        |       |
| 55  | Marcellus  | 0         | 83  | 83    | 0          | --       | --          | 4.437394    | 4         | 0        | 0          | 0         | 0         | 0    | 0        | 0      | 0          | 0         | 0      | 0          | 0      | 7    | 0       | 0      | 0     | 0         | 0         | 11        |       |
| 56  | Lafayette  | 0         | 306 | 306   | 0          | --       | --          | 0           | 0         | 0        | 0          | 9         | 89        | 0    | 0        | 0      | 7          | 0         | 0      | 0          | 9      | 3    | 0       | 9      | 0     | 0         | 0         | 125       |       |
| 57  | Skaneatele | 0         | 241 | 241   | 0          | --       | --          | 6.632658    | 0         | 6        | 0          | 0         | 0         | 185  | 0        | 0      | 0          | 0         | 0      | 0          | 0      | 9    | 0       | 0      | 0     | 0         | 0         | 440       |       |
| 58  | Skaneatele | 0         | 185 | 185   | 0          | --       | --          | 6.632658    | 0         | 0        | 0          | 0         | 0         | 0    | 0        | 157    | 0          | 0         | 0      | 0          | 0      | 5    | 3       | 0      | 0     | 0         | 0         | 165       |       |
| 59  | Skaneatele | 0         | 494 | 494   | 0          | --       | --          | 6.632651    | 1         | 67       | 10         | 8         | 196       | 0    | 211      | 100    | 62         | 12        | 78     | 0          | 0      | 157  | 64      | 27     | 56    | 0         | 21        | 1070      |       |
| 60  | Onondaga   | 0         | 189 | 189   | 0          | --       | --          | 2.10391     | 0         | 0        | 0          | 0         | 0         | 0    | 0        | 49     | 0          | 0         | 0      | 0          | 0      | 0    | 0       | 0      | 0     | 0         | 0         | 49        |       |



|               |   |     |     |       |    |          |    |     |    |    |     |     |    |     |     |    |      |     |     |     |    |    |    |      |
|---------------|---|-----|-----|-------|----|----------|----|-----|----|----|-----|-----|----|-----|-----|----|------|-----|-----|-----|----|----|----|------|
| 61 Lafayette  | 0 | 241 | 241 | 0 --  | -- | 0        | 4  | 0   | 0  | 17 | 0   | 0   | 0  | 0   | 0   | 0  | 0    | 0   | 74  | 0   | 0  | 0  | 0  | 95   |
| 62 Marcellus  | 0 | 109 | 109 | 0 --  | -- | 1.796431 | 0  | 0   | 0  | 0  | 0   | 0   | 0  | 0   | 0   | 0  | 0    | 0   | 0   | 0   | 0  | 0  | 5  | 5    |
| 63 Onondaga   | 0 | 361 | 361 | 0 --  | -- | 0        | 0  | 3   | 0  | 8  | 31  | 0   | 0  | 0   | 4   | 0  | 3    | 0   | 1   | 3   | 3  | 0  | 0  | 55   |
| 64 Skaneatele | 0 | 150 | 150 | 0 --  | -- | 2.484472 | 0  | 0   | 0  | 0  | 0   | 2   | 0  | 0   | 0   | 0  | 0    | 0   | 14  | 0   | 0  | 0  | 0  | 16   |
| 65 Skaneatele | 0 | 318 | 318 | 0 --  | -- | 2.484472 | 0  | 0   | 0  | 22 | 0   | 32  | 6  | 0   | 0   | 0  | 26   | 0   | 12  | 126 | 0  | 0  | 0  | 225  |
| 66 Skaneatele | 0 | 42  | 42  | 0 --  | -- | 2.484472 | 0  | 0   | 0  | 0  | 0   | 0   | 0  | 0   | 0   | 0  | 0    | 0   | 3   | 0   | 0  | 0  | 0  | 3    |
| 67 Onondaga   | 0 | 202 | 202 | 0 --  | -- | 2.499991 | 0  | 5   | 0  | 0  | 10  | 0   | 0  | 0   | 5   | 0  | 0    | 0   | 2   | 5   | 0  | 6  | 0  | 33   |
| 68 Pompey     | 0 | 153 | 153 | 0 --  | -- | 0.94086  | 0  | 1   | 1  | 1  | 1   | 2   | 1  | 1   | 2   | 0  | 2    | 0   | 2   | 1   | 1  | 1  | 0  | 18   |
| 69 Pompey     | 0 | 243 | 237 | 6 --  | -- | 0.94086  | 0  | 32  | 0  | 0  | 0   | 0   | 0  | 0   | 0   | 0  | 0    | 0   | 15  | 0   | 0  | 0  | 15 | 62   |
| 70 Pompey     | 0 | 316 | 316 | 0 --  | -- | 0.94086  | 0  | 4   | 2  | 2  | 2   | 6   | 4  | 2   | 6   | 0  | 6    | 0   | 6   | 4   | 2  | 2  | 0  | 50   |
| 71 Lafayette  | 0 | 125 | 125 | 0 --  | -- | 0.000542 | 0  | 0   | 0  | 0  | 0   | 0   | 0  | 21  | 0   | 0  | 0    | 0   | 0   | 0   | 0  | 0  | 0  | 21   |
| 72 Pompey     | 0 | 127 | 127 | 0 --  | -- | 8.370044 | 0  | 1   | 1  | 1  | 1   | 2   | 1  | 1   | 2   | 0  | 2    | 0   | 2   | 1   | 1  | 1  | 0  | 18   |
| 73 Pompey     | 0 | 195 | 195 | 0 --  | -- | 8.370044 | 0  | 0   | 0  | 12 | 0   | 0   | 0  | 0   | 0   | 0  | 0    | 0   | 0   | 0   | 0  | 0  | 0  | 19   |
| 74 Marcellus  | 0 | 413 | 413 | 0 --  | -- | 7.08157  | 0  | 0   | 0  | 9  | 18  | 0   | 8  | 0   | 72  | 0  | 0    | 8   | 122 | 0   | 33 | 24 | 0  | 312  |
| 75 Onondaga   | 0 | 12  | 12  | 0 --  | -- | 2.467097 | 0  | 0   | 0  | 0  | 0   | 0   | 0  | 0   | 0   | 0  | 77   | 0   | 15  | 0   | 0  | 0  | 0  | 92   |
| 76 Onondaga   | 0 | 256 | 256 | 0 --  | -- | 1.716163 | 55 | 34  | 0  | 24 | 107 | 97  | 10 | 12  | 0   | 0  | 16   | 0   | 44  | 40  | 0  | 18 | 0  | 473  |
| 77 Onondaga   | 0 | 212 | 212 | 0 --  | -- | 2.252645 | 0  | 0   | 0  | 0  | 0   | 0   | 0  | 9   | 0   | 0  | 26   | 0   | 0   | 0   | 0  | 0  | 0  | 35   |
| 78 Marcellus  | 0 | 111 | 111 | 0 --  | -- | 2.252645 | 1  | 0   | 0  | 3  | 0   | 0   | 0  | 0   | 0   | 0  | 0    | 0   | 13  | 0   | 0  | 0  | 0  | 17   |
| 79 Marcellus  | 0 | 17  | 17  | 0 --  | -- | 7.10492  | 0  | 3   | 1  | 1  | 1   | 3   | 3  | 1   | 4   | 0  | 3    | 0   | 4   | 1   | 1  | 1  | 0  | 28   |
| 80 Marcellus  | 0 | 15  | 15  | 0 --  | -- | 7.10492  | 1  | 0   | 0  | 59 | 0   | 0   | 0  | 114 | 0   | 0  | 5    | 0   | 8   | 10  | 0  | 0  | 0  | 215  |
| 81 Onondaga   | 0 | 425 | 425 | 0 --  | -- | 2.499972 | 0  | 3   | 0  | 0  | 0   | 0   | 0  | 0   | 5   | 0  | 0    | 0   | 49  | 5   | 0  | 0  | 0  | 62   |
| 82 Onondaga   | 0 | 286 | 286 | 0 --  | -- | 0.063096 | 0  | 0   | 0  | 0  | 0   | 0   | 3  | 0   | 0   | 0  | 0    | 0   | 0   | 4   | 0  | 0  | 0  | 7    |
| 83 Skaneatele | 0 | 493 | 493 | 0 --  | -- | 2.066773 | 0  | 464 | 0  | 48 | 37  | 0   | 0  | 0   | 20  | 0  | 1017 | 0   | 18  | 0   | 0  | 37 | 0  | 1650 |
| 84 Manlius    | 0 | 16  | 16  | 0 --  | -- | 0.00013  | 0  | 7   | 0  | 0  | 0   | 0   | 0  | 0   | 0   | 0  | 0    | 0   | 0   | 0   | 0  | 0  | 0  | 7    |
| 85 Manlius    | 0 | 145 | 145 | 0 --  | -- | 0.00013  | 0  | 0   | 0  | 0  | 0   | 0   | 0  | 0   | 0   | 0  | 0    | 0   | 0   | 0   | 0  | 0  | 0  | 0    |
| 86 Manlius    | 0 | 345 | 345 | 0 --  | -- | 0.00013  | 0  | 3   | 0  | 0  | 0   | 0   | 6  | 0   | 0   | 0  | 3    | 0   | 0   | 0   | 0  | 0  | 0  | 12   |
| 87 Manlius    | 0 | 215 | 215 | 0 --  | -- | 0.00013  | 0  | 5   | 0  | 4  | 0   | 0   | 12 | 0   | 7   | 0  | 4    | 0   | 7   | 0   | 0  | 0  | 4  | 43   |
| 88 Marcellus  | 0 | 200 | 200 | 0 --  | -- | 5.712801 | 0  | 2   | 0  | 0  | 37  | 124 | 6  | 429 | 0   | 0  | 5    | 0   | 11  | 0   | 0  | 0  | 0  | 614  |
| 89 Marcellus  | 0 | 207 | 207 | 0 --  | -- | 5.712801 | 0  | 3   | 0  | 0  | 16  | 0   | 10 | 0   | 12  | 0  | 7    | 0   | 70  | 34  | 8  | 20 | 0  | 181  |
| 90 Dewitt     | 0 | 373 | 373 | 0 --  | -- | 0.506296 | 3  | 14  | 0  | 0  | 8   | 0   | 0  | 136 | 0   | 0  | 0    | 0   | 5   | 16  | 0  | 21 | 0  | 203  |
| 91 Dewitt     | 0 | 50  | 50  | 0 --  | -- | 3.225817 | 0  | 0   | 0  | 0  | 0   | 0   | 0  | 111 | 0   | 0  | 0    | 0   | 0   | 0   | 0  | 0  | 0  | 111  |
| 92 Marcellus  | 0 | 142 | 142 | 0 --  | -- | 11.57805 | 0  | 0   | 0  | 0  | 0   | 0   | 0  | 0   | 0   | 0  | 8    | 0   | 0   | 0   | 0  | 1  | 0  | 9    |
| 93 Marcellus  | 0 | 156 | 156 | 0 --  | -- | 3.714994 | 0  | 1   | 0  | 0  | 0   | 1   | 1  | 0   | 0   | 0  | 0    | 0   | 3   | 0   | 0  | 0  | 0  | 7    |
| 94 Marcellus  | 0 | 133 | 133 | 0 --  | -- | 3.714994 | 0  | 0   | 0  | 0  | 0   | 0   | 0  | 0   | 0   | 0  | 0    | 0   | 0   | 26  | 0  | 0  | 0  | 26   |
| 95 Onondaga   | 0 | 634 | 630 | 4 --  | -- | 2.114484 | 0  | 268 | 0  | 0  | 0   | 0   | 5  | 0   | 0   | 0  | 0    | 0   | 29  | 32  | 0  | 0  | 0  | 334  |
| 96 Syracuse   | 0 | 758 | 758 | 0 --  | -- | 3.185067 | 0  | 0   | 0  | 0  | 0   | 0   | 0  | 0   | 63  | 0  | 0    | 0   | 48  | 22  | 0  | 0  | 0  | 133  |
| 97 Manlius    | 0 | 62  | 62  | 0 --  | -- | 2.920962 | 1  | 40  | 0  | 23 | 39  | 0   | 5  | 0   | 63  | 0  | 303  | 0   | 77  | 8   | 5  | 0  | 0  | 578  |
| 98 Manlius    | 0 | 619 | 619 | 0 --  | -- | 2.920962 | 0  | 54  | 0  | 11 | 0   | 0   | 0  | 0   | 18  | 0  | 0    | 0   | 227 | 14  | 3  | 0  | 0  | 350  |
| 99 Syracuse   | 0 | 763 | 763 | 0 --  | -- | 0.630392 | 0  | 0   | 0  | 0  | 0   | 0   | 0  | 0   | 0   | 0  | 0    | 100 | 24  | 0   | 0  | 0  | 0  | 124  |
| 100 Syracuse  | 0 | 318 | 311 | 7 --  | -- | 3.971682 | 0  | 0   | 0  | 0  | 0   | 0   | 4  | 0   | 5   | 0  | 0    | 0   | 2   | 9   | 0  | 0  | 0  | 20   |
| 101 Onondaga  | 0 | 463 | 456 | 7 --  | -- | 0.043631 | 0  | 5   | 0  | 13 | 0   | 16  | 38 | 0   | 6   | 0  | 0    | 0   | 31  | 49  | 0  | 20 | 0  | 178  |
| 102 Syracuse  | 0 | 350 | 326 | 24 -- | -- | 5.971782 | 0  | 22  | 0  | 0  | 0   | 180 | 11 | 0   | 0   | 0  | 0    | 0   | 13  | 28  | 20 | 0  | 0  | 275  |
| 103 Marcellus | 0 | 242 | 242 | 0 --  | -- | 0.700534 | 0  | 4   | 1  | 2  | 2   | 5   | 3  | 2   | 5   | 0  | 4    | 0   | 6   | 2   | 1  | 2  | 0  | 41   |
| 104 Marcellus | 0 | 152 | 152 | 0 --  | -- | 0.700534 | 0  | 3   | 0  | 4  | 0   | 0   | 0  | 0   | 0   | 0  | 3    | 0   | 0   | 12  | 0  | 0  | 0  | 25   |
| 105 Manlius   | 0 | 711 | 710 | 1 --  | -- | 1.257862 | 1  | 35  | 0  | 15 | 7   | 305 | 15 | 0   | 6   | 0  | 18   | 0   | 9   | 6   | 50 | 4  | 0  | 480  |
| 106 Dewitt    | 0 | 242 | 236 | 6 --  | -- | 3.141876 | 0  | 21  | 17 | 0  | 48  | 0   | 8  | 0   | 27  | 0  | 16   | 0   | 7   | 6   | 9  | 0  | 0  | 168  |
| 107 Syracuse  | 0 | 33  | 33  | 0 --  | -- | 1.730095 | 0  | 0   | 0  | 0  | 0   | 0   | 4  | 0   | 0   | 21 | 0    | 0   | 3   | 8   | 0  | 0  | 0  | 36   |
| 108 Syracuse  | 0 | 40  | 40  | 0 --  | -- | 1.730095 | 0  | 9   | 0  | 0  | 31  | 0   | 0  | 0   | 0   | 0  | 0    | 0   | 12  | 0   | 0  | 0  | 0  | 52   |
| 109 Syracuse  | 0 | 290 | 290 | 0 --  | -- | 1.730095 | 0  | 0   | 0  | 0  | 21  | 0   | 0  | 0   | 0   | 0  | 0    | 0   | 40  | 0   | 0  | 0  | 0  | 61   |
| 110 Syracuse  | 0 | 49  | 49  | 0 --  | -- | 1.730095 | 0  | 0   | 0  | 0  | 5   | 0   | 0  | 0   | 0   | 0  | 0    | 0   | 0   | 0   | 0  | 0  | 0  | 5    |
| 111 Onondaga  | 0 | 242 | 241 | 1 --  | -- | 0.001515 | 0  | 0   | 37 | 31 | 0   | 13  | 0  | 24  | 9   | 0  | 6    | 0   | 9   | 9   | 43 | 0  | 0  | 192  |
| 112 Onondaga  | 0 | 171 | 171 | 0 --  | -- | 0.001515 | 0  | 0   | 1  | 0  | 0   | 0   | 0  | 0   | 0   | 0  | 0    | 0   | 5   | 0   | 0  | 0  | 0  | 6    |
| 113 Onondaga  | 0 | 11  | 11  | 0 --  | -- | 2.167082 | 0  | 0   | 0  | 6  | 0   | 0   | 0  | 0   | 78  | 0  | 0    | 0   | 0   | 4   | 0  | 0  | 0  | 88   |
| 114 Dewitt    | 0 | 35  | 35  | 0 --  | -- | 0        | 0  | 0   | 0  | 0  | 0   | 0   | 0  | 0   | 0   | 0  | 0    | 0   | 190 | 0   | 0  | 0  | 0  | 190  |
| 115 Manlius   | 0 | 791 | 791 | 0 --  | -- | 0        | 0  | 17  | 0  | 10 | 27  | 0   | 24 | 0   | 13  | 0  | 70   | 0   | 20  | 7   | 0  | 0  | 0  | 188  |
| 116 Onondaga  | 0 | 551 | 541 | 10 -- | -- | 0        | 2  | 6   | 0  | 0  | 0   | 0   | 0  | 0   | 0   | 0  | 32   | 0   | 5   | 5   | 9  | 0  | 0  | 59   |
| 117 Onondaga  | 0 | 643 | 643 | 0 --  | -- | 0.41189  | 0  | 0   | 0  | 0  | 15  | 0   | 0  | 102 | 0   | 0  | 0    | 0   | 5   | 0   | 0  | 0  | 0  | 130  |
| 118 Syracuse  | 0 | 696 | 696 | 0 --  | -- | 4.542517 | 4  | 81  | 0  | 11 | 74  | 0   | 34 | 0   | 256 | 0  | 0    | 34  | 68  | 8   | 43 | 0  | 0  | 672  |
| 119 Syracuse  | 0 | 705 | 705 | 0 --  | -- | 8.817335 | 0  | 56  | 11 | 18 | 95  | 82  | 0  | 0   | 26  | 2  | 0    | 0   | 47  | 29  | 9  | 0  | 0  | 380  |
| 120 Manlius   | 0 | 222 | 222 | 0 --  | -- | 0        | 0  | 0   | 0  | 0  | 0   | 0   | 0  | 0   | 0   | 0  | 0    | 0   | 9   | 87  | 0  | 0  | 0  | 96   |
| 121 Syracuse  | 0 | 314 | 314 | 0 --  | -- | 2.334158 | 0  | 29  | 0  | 13 | 25  | 0   | 15 | 0   | 0   | 0  | 0    | 0   | 6   | 11  | 3  | 0  | 0  | 103  |



|              |   |     |     |       |    |          |    |     |     |     |    |     |    |     |     |   |     |   |    |      |     |    |    |    |     |      |
|--------------|---|-----|-----|-------|----|----------|----|-----|-----|-----|----|-----|----|-----|-----|---|-----|---|----|------|-----|----|----|----|-----|------|
| 122 Syracuse | 0 | 127 | 127 | 0 --  | -- | 2.175182 | 0  | 0   | 0   | 0   | 0  | 45  | 0  | 0   | 0   | 0 | 0   | 0 | 0  | 14   | 0   | 0  | 4  | 63 |     |      |
| 123 Syracuse | 0 | 331 | 331 | 0 --  | -- | 2.175182 | 0  | 5   | 1   | 2   | 3  | 6   | 4  | 2   | 6   | 0 | 5   | 0 | 0  | 7    | 3   | 1  | 2  | 0  | 3   | 50   |
| 124 Onondaga | 0 | 78  | 78  | 0 --  | -- | 2.031805 | 1  | 0   | 153 | 0   | 0  | 18  | 22 | 127 | 4   | 0 | 4   | 0 | 0  | 5    | 7   | 7  | 0  | 0  | 0   | 347  |
| 125 Manlius  | 0 | 390 | 390 | 0 --  | -- | 7.783208 | 0  | 0   | 0   | 0   | 0  | 0   | 0  | 0   | 0   | 0 | 0   | 0 | 0  | 0    | 0   | 0  | 0  | 0  | 0   | 0    |
| 126 Manlius  | 0 | 156 | 156 | 0 --  | -- | 7.783208 | 3  | 107 | 0   | 7   | 61 | 0   | 32 | 63  | 8   | 0 | 21  | 0 | 0  | 1116 | 109 | 16 | 0  | 0  | 7   | 1550 |
| 127 Manlius  | 0 | 373 | 373 | 0 --  | -- | 7.706893 | 0  | 0   | 0   | 0   | 0  | 0   | 0  | 0   | 50  | 0 | 0   | 0 | 0  | 0    | 0   | 0  | 0  | 0  | 0   | 50   |
| 128 Syracuse | 0 | 283 | 276 | 7 --  | -- | 0.064559 | 0  | 31  | 0   | 0   | 83 | 0   | 27 | 0   | 0   | 0 | 0   | 0 | 0  | 143  | 0   | 0  | 0  | 0  | 0   | 284  |
| 129 Dewitt   | 0 | 2   | 2   | 0 --  | -- | 0.090649 | 0  | 0   | 0   | 27  | 0  | 0   | 0  | 0   | 0   | 0 | 0   | 0 | 0  | 36   | 12  | 0  | 0  | 0  | 0   | 75   |
| 130 Syracuse | 0 | 116 | 116 | 0 --  | -- | 2.664003 | 0  | 0   | 0   | 0   | 0  | 0   | 0  | 0   | 0   | 0 | 0   | 0 | 0  | 9    | 4   | 0  | 0  | 0  | 0   | 13   |
| 131 Syracuse | 0 | 86  | 86  | 0 --  | -- | 0.057264 | 0  | 0   | 0   | 0   | 6  | 0   | 0  | 0   | 0   | 0 | 0   | 0 | 0  | 0    | 0   | 0  | 0  | 0  | 0   | 6    |
| 132 Syracuse | 0 | 89  | 89  | 0 --  | -- | 0.057264 | 0  | 0   | 0   | 0   | 0  | 0   | 0  | 0   | 0   | 0 | 0   | 0 | 0  | 0    | 0   | 0  | 0  | 0  | 0   | 0    |
| 133 Onondaga | 0 | 217 | 203 | 14 -- | -- | 0.037051 | 0  | 5   | 0   | 0   | 15 | 108 | 7  | 0   | 0   | 0 | 0   | 0 | 0  | 0    | 3   | 0  | 0  | 0  | 0   | 138  |
| 134 Manlius  | 0 | 266 | 266 | 0 --  | -- | 6.602251 | 0  | 13  | 0   | 16  | 35 | 0   | 55 | 0   | 0   | 0 | 39  | 0 | 7  | 40   | 7   | 78 | 91 | 0  | 0   | 381  |
| 135 Manlius  | 0 | 185 | 185 | 0 --  | -- | 6.602251 | 0  | 0   | 0   | 0   | 0  | 0   | 2  | 0   | 0   | 0 | 4   | 0 | 0  | 3    | 0   | 0  | 0  | 0  | 0   | 9    |
| 136 Manlius  | 0 | 198 | 198 | 0 --  | -- | 0.008753 | 0  | 2   | 0   | 1   | 1  | 2   | 1  | 1   | 2   | 0 | 1   | 0 | 0  | 3    | 1   | 1  | 1  | 0  | 1   | 18   |
| 137 Manlius  | 0 | 196 | 196 | 0 --  | -- | 4.091375 | 0  | 0   | 0   | 80  | 0  | 0   | 64 | 0   | 0   | 0 | 0   | 0 | 0  | 37   | 85  | 60 | 0  | 0  | 0   | 325  |
| 138 Onondaga | 0 | 383 | 383 | 0 --  | -- | 0        | 2  | 1   | 0   | 2   | 0  | 0   | 0  | 18  | 0   | 0 | 0   | 0 | 0  | 0    | 0   | 0  | 0  | 0  | 1   | 24   |
| 139 Onondaga | 0 | 119 | 119 | 0 --  | -- | 0        | 0  | 0   | 0   | 1   | 0  | 0   | 0  | 18  | 0   | 0 | 0   | 0 | 0  | 0    | 0   | 0  | 0  | 0  | 1   | 20   |
| 140 Onondaga | 0 | 0   | 0   | 0 --  | -- | 0        | 0  | 0   | 0   | 0   | 0  | 0   | 0  | 61  | 0   | 0 | 0   | 0 | 0  | 0    | 0   | 0  | 0  | 0  | 0   | 61   |
| 141 Onondaga | 0 | 79  | 79  | 0 --  | -- | 0        | 1  | 8   | 1   | 2   | 3  | 7   | 6  | 2   | 9   | 1 | 6   | 0 | 0  | 11   | 3   | 2  | 2  | 1  | 3   | 68   |
| 142 Onondaga | 0 | 457 | 451 | 6 --  | -- | 0.007274 | 0  | 0   | 0   | 0   | 0  | 0   | 9  | 63  | 0   | 0 | 0   | 0 | 0  | 7    | 0   | 5  | 0  | 0  | 0   | 85   |
| 143 Syracuse | 0 | 95  | 94  | 1 --  | -- | 2.445112 | 0  | 0   | 0   | 0   | 0  | 0   | 0  | 0   | 0   | 0 | 0   | 0 | 0  | 13   | 0   | 0  | 0  | 0  | 0   | 13   |
| 144 Syracuse | 0 | 224 | 210 | 14 -- | -- | 2.445112 | 0  | 0   | 0   | 1   | 0  | 48  | 0  | 0   | 0   | 5 | 0   | 0 | 0  | 6    | 0   | 0  | 0  | 0  | 0   | 60   |
| 145 Syracuse | 0 | 362 | 362 | 0 --  | -- | 0.463757 | 0  | 0   | 0   | 0   | 0  | 0   | 0  | 0   | 0   | 0 | 0   | 0 | 0  | 0    | 0   | 0  | 0  | 0  | 0   | 0    |
| 146 Syracuse | 0 | 24  | 24  | 0 --  | -- | 4.133406 | 0  | 6   | 3   | 1   | 66 | 1   | 0  | 1   | 140 | 8 | 9   | 0 | 0  | 0    | 1   | 30 | 0  | 0  | 2   | 268  |
| 147 Syracuse | 0 | 15  | 15  | 0 --  | -- | 4.133406 | 2  | 91  | 2   | 221 | 2  | 51  | 35 | 3   | 4   | 1 | 211 | 0 | 0  | 47   | 37  | 3  | 39 | 3  | 367 | 1119 |
| 148 Syracuse | 0 | 836 | 836 | 0 --  | -- | 4.133406 | 0  | 6   | 0   | 14  | 0  | 10  | 3  | 0   | 1   | 0 | 21  | 0 | 0  | 2    | 3   | 0  | 3  | 0  | 2   | 65   |
| 149 Syracuse | 0 | 291 | 291 | 0 --  | -- | 2.21963  | 0  | 10  | 0   | 6   | 0  | 0   | 15 | 0   | 0   | 0 | 0   | 0 | 0  | 9    | 0   | 9  | 0  | 0  | 0   | 49   |
| 150 Syracuse | 0 | 492 | 487 | 5 --  | -- | 0.010898 | 0  | 0   | 0   | 0   | 0  | 0   | 0  | 0   | 0   | 0 | 0   | 0 | 13 | 6    | 0   | 0  | 0  | 0  | 19  |      |
| 151 Syracuse | 0 | 198 | 192 | 6 --  | -- | 3.68821  | 0  | 0   | 0   | 0   | 0  | 206 | 0  | 0   | 0   | 0 | 0   | 0 | 0  | 0    | 0   | 11 | 0  | 0  | 0   | 217  |
| 152 Onondaga | 0 | 6   | 6   | 0 --  | -- | 0        | 0  | 0   | 0   | 0   | 0  | 0   | 0  | 0   | 0   | 0 | 0   | 0 | 0  | 0    | 0   | 0  | 0  | 0  | 0   | 0    |
| 153 Onondaga | 0 | 13  | 13  | 0 --  | -- | 0        | 12 | 21  | 0   | 24  | 12 | 0   | 0  | 0   | 57  | 0 | 0   | 0 | 0  | 19   | 0   | 0  | 17 | 0  | 0   | 162  |
| 154 Manlius  | 0 | 82  | 82  | 0 --  | -- | 2.639621 | 0  | 17  | 0   | 0   | 0  | 0   | 0  | 0   | 0   | 0 | 0   | 0 | 0  | 0    | 0   | 0  | 0  | 0  | 0   | 17   |
| 155 Syracuse | 0 | 299 | 295 | 4 --  | -- | 11.54331 | 0  | 4   | 5   | 0   | 4  | 4   | 0  | 0   | 3   | 1 | 5   | 0 | 0  | 0    | 0   | 0  | 0  | 0  | 0   | 26   |
| 156 Dewitt   | 0 | 445 | 445 | 0 --  | -- | 0.232648 | 0  | 0   | 0   | 0   | 0  | 0   | 11 | 0   | 171 | 0 | 0   | 0 | 0  | 0    | 0   | 94 | 0  | 0  | 9   | 285  |
| 157 Syracuse | 0 | 158 | 158 | 0 --  | -- | 0.079881 | 0  | 6   | 0   | 0   | 12 | 90  | 0  | 0   | 0   | 0 | 0   | 0 | 0  | 1    | 0   | 0  | 0  | 0  | 0   | 109  |
| 158 Syracuse | 0 | 287 | 283 | 4 --  | -- | 1.844171 | 0  | 2   | 0   | 0   | 16 | 96  | 0  | 0   | 0   | 0 | 0   | 0 | 15 | 8    | 0   | 0  | 0  | 5  | 142 |      |
| 159 Dewitt   | 0 | 241 | 241 | 0 --  | -- | 0.855222 | 0  | 25  | 0   | 17  | 0  | 0   | 22 | 0   | 25  | 0 | 17  | 0 | 0  | 0    | 0   | 0  | 0  | 0  | 0   | 106  |
| 160 Dewitt   | 0 | 313 | 313 | 0 --  | -- | 0.855222 | 0  | 328 | 0   | 0   | 0  | 22  | 38 | 0   | 35  | 4 | 0   | 0 | 0  | 15   | 9   | 5  | 0  | 0  | 4   | 460  |
| 161 Dewitt   | 0 | 242 | 242 | 0 --  | -- | 2.98412  | 0  | 0   | 0   | 8   | 26 | 58  | 5  | 6   | 0   | 0 | 0   | 0 | 0  | 0    | 8   | 0  | 0  | 0  | 4   | 115  |
| 162 Dewitt   | 0 | 59  | 59  | 0 --  | -- | 2.98412  | 0  | 20  | 0   | 0   | 20 | 0   | 0  | 0   | 0   | 0 | 0   | 0 | 0  | 237  | 11  | 0  | 33 | 0  | 0   | 321  |
| 163 Onondaga | 0 | 361 | 361 | 0 --  | -- | 0.027085 | 0  | 0   | 0   | 0   | 0  | 0   | 0  | 0   | 0   | 0 | 0   | 0 | 0  | 0    | 64  | 0  | 0  | 0  | 0   | 64   |
| 164 Onondaga | 0 | 353 | 353 | 0 --  | -- | 0.006435 | 1  | 0   | 0   | 32  | 2  | 73  | 2  | 0   | 0   | 0 | 44  | 0 | 0  | 3    | 2   | 0  | 0  | 0  | 0   | 159  |
| 165 Onondaga | 0 | 100 | 100 | 0 --  | -- | 0.006435 | 0  | 0   | 0   | 0   | 0  | 0   | 0  | 0   | 0   | 0 | 0   | 0 | 0  | 0    | 2   | 3  | 0  | 0  | 0   | 5    |
| 166 Manlius  | 0 | 103 | 103 | 0 --  | -- | 2.637489 | 0  | 0   | 0   | 0   | 0  | 174 | 0  | 0   | 0   | 0 | 0   | 0 | 0  | 0    | 0   | 0  | 0  | 0  | 0   | 174  |
| 167 Syracuse | 0 | 127 | 127 | 0 --  | -- | 0.654891 | 0  | 0   | 0   | 0   | 0  | 0   | 0  | 0   | 0   | 0 | 0   | 0 | 0  | 0    | 0   | 0  | 0  | 0  | 0   | 0    |
| 168 Syracuse | 0 | 19  | 19  | 0 --  | -- | 0.654891 | 0  | 0   | 0   | 0   | 5  | 137 | 0  | 0   | 0   | 0 | 0   | 0 | 0  | 0    | 0   | 0  | 0  | 0  | 0   | 142  |
| 169 Dewitt   | 0 | 31  | 31  | 0 --  | -- | 5.345486 | 0  | 0   | 0   |     |    |     |    |     |     |   |     |   |    |      |     |    |    |    |     |      |



|                 |   |     |     |       |    |          |   |    |    |    |     |     |     |    |    |    |     |    |    |     |    |    |    |     |      |
|-----------------|---|-----|-----|-------|----|----------|---|----|----|----|-----|-----|-----|----|----|----|-----|----|----|-----|----|----|----|-----|------|
| 183 Syracuse    | 0 | 33  | 33  | 0 --  | -- | 10.13334 | 0 | 0  | 0  | 0  | 0   | 14  | 0   | 0  | 0  | 0  | 0   | 0  | 0  | 3   | 0  | 0  | 0  | 0   | 17   |
| 184 Syracuse    | 0 | 62  | 61  | 1 --  | -- | 10.13334 | 0 | 0  | 0  | 0  | 0   | 0   | 0   | 0  | 0  | 0  | 0   | 0  | 0  | 0   | 33 | 0  | 0  | 33  |      |
| 185 Dewitt      | 0 | 277 | 268 | 9 --  | -- | 0.014031 | 0 | 2  | 0  | 0  | 0   | 18  | 13  | 0  | 0  | 0  | 0   | 12 | 7  | 25  | 0  | 0  | 0  | 77  |      |
| 186 Syracuse    | 0 | 24  | 24  | 0 --  | -- | 2.274165 | 0 | 0  | 0  | 0  | 0   | 136 | 0   | 0  | 0  | 0  | 0   | 0  | 0  | 0   | 0  | 0  | 0  | 136 |      |
| 187 Manlius     | 0 | 651 | 646 | 5 --  | -- | 2.548554 | 0 | 85 | 0  | 0  | 75  | 139 | 160 | 0  | 32 | 0  | 46  | 0  | 0  | 168 | 0  | 0  | 0  | 8   | 713  |
| 188 Manlius     | 0 | 113 | 113 | 0 --  | -- | 2.548554 | 0 | 0  | 0  | 0  | 0   | 0   | 0   | 0  | 0  | 0  | 0   | 0  | 26 | 0   | 0  | 0  | 0  | 26  |      |
| 189 Syracuse    | 0 | 218 | 218 | 0 --  | -- | 1.086497 | 0 | 4  | 0  | 5  | 0   | 0   | 0   | 0  | 0  | 0  | 0   | 0  | 0  | 0   | 0  | 0  | 0  | 9   |      |
| 190 Syracuse    | 0 | 101 | 101 | 0 --  | -- | 1.086497 | 0 | 5  | 0  | 0  | 0   | 0   | 0   | 0  | 0  | 0  | 0   | 23 | 0  | 0   | 0  | 0  | 0  | 28  |      |
| 191 Onondaga    | 0 | 373 | 373 | 0 --  | -- | 0.260395 | 0 | 0  | 0  | 4  | 2   | 13  | 6   | 2  | 0  | 0  | 7   | 0  | 0  | 0   | 0  | 3  | 0  | 36  |      |
| 192 Syracuse    | 0 | 379 | 379 | 0 --  | -- | 1.360265 | 0 | 4  | 1  | 1  | 2   | 4   | 2   | 1  | 3  | 0  | 2   | 0  | 0  | 1   | 1  | 0  | 1  | 2   | 25   |
| 193 Syracuse    | 0 | 143 | 143 | 0 --  | -- | 1.360265 | 0 | 0  | 0  | 1  | 0   | 0   | 1   | 0  | 1  | 0  | 0   | 0  | 1  | 1   | 0  | 0  | 0  | 5   |      |
| 194 Elbridge    | 0 | 140 | 135 | 5 --  | -- | 2.727273 | 0 | 3  | 0  | 0  | 7   | 28  | 0   | 0  | 0  | 0  | 15  | 0  | 0  | 30  | 3  | 0  | 0  | 2   | 88   |
| 195 Elbridge    | 0 | 217 | 217 | 0 --  | -- | 2.727273 | 8 | 7  | 0  | 0  | 21  | 0   | 37  | 18 | 0  | 0  | 26  | 0  | 0  | 0   | 1  | 0  | 0  | 7   | 125  |
| 196 Syracuse    | 0 | 194 | 194 | 0 --  | -- | 3.996721 | 2 | 9  | 0  | 0  | 6   | 0   | 0   | 0  | 12 | 0  | 5   | 0  | 0  | 0   | 0  | 0  | 0  | 34  |      |
| 197 Onondaga    | 0 | 1   | 1   | 0 --  | -- | 0        | 0 | 0  | 0  | 0  | 0   | 0   | 0   | 0  | 0  | 0  | 0   | 0  | 92 | 0   | 0  | 0  | 0  | 92  |      |
| 198 Onondaga    | 0 | 24  | 24  | 0 --  | -- | 0        | 0 | 0  | 0  | 0  | 0   | 0   | 0   | 0  | 0  | 0  | 0   | 0  | 0  | 0   | 0  | 0  | 0  | 0   |      |
| 199 Syracuse    | 0 | 95  | 95  | 0 --  | -- | 0.015934 | 0 | 3  | 0  | 0  | 0   | 0   | 0   | 0  | 0  | 12 | 0   | 0  | 2  | 3   | 0  | 10 | 0  | 30  |      |
| 200 Syracuse    | 0 | 167 | 167 | 0 --  | -- | 0.096402 | 0 | 2  | 1  | 1  | 1   | 3   | 2   | 1  | 3  | 0  | 3   | 0  | 0  | 3   | 2  | 1  | 1  | 0   | 25   |
| 201 Syracuse    | 0 | 217 | 217 | 0 --  | -- | 0.096402 | 0 | 0  | 0  | 0  | 0   | 0   | 0   | 0  | 0  | 0  | 0   | 0  | 0  | 4   | 0  | 0  | 0  | 4   |      |
| 202 Fayettevill | 0 | 450 | 450 | 0 --  | -- | 2.639292 | 2 | 23 | 0  | 14 | 18  | 29  | 14  | 0  | 0  | 0  | 237 | 0  | 5  | 20  | 5  | 8  | 0  | 5   | 378  |
| 203 Syracuse    | 0 | 145 | 145 | 0 --  | -- | 0.140317 | 0 | 0  | 0  | 0  | 0   | 0   | 0   | 0  | 0  | 0  | 0   | 0  | 10 | 0   | 0  | 0  | 0  | 10  |      |
| 204 Syracuse    | 0 | 286 | 281 | 5 --  | -- | 10.98307 | 0 | 0  | 0  | 0  | 0   | 0   | 0   | 0  | 0  | 0  | 0   | 0  | 13 | 0   | 4  | 0  | 0  | 17  |      |
| 205 Syracuse    | 0 | 12  | 12  | 0 --  | -- | 10.98307 | 0 | 0  | 0  | 4  | 0   | 0   | 0   | 0  | 0  | 0  | 0   | 0  | 2  | 3   | 2  | 0  | 0  | 11  |      |
| 206 Syracuse    | 0 | 99  | 99  | 0 --  | -- | 4.982461 | 0 | 0  | 0  | 0  | 0   | 0   | 0   | 0  | 0  | 0  | 0   | 0  | 0  | 0   | 0  | 0  | 0  | 0   |      |
| 207 Syracuse    | 0 | 91  | 91  | 0 --  | -- | 4.982461 | 0 | 0  | 0  | 0  | 0   | 0   | 0   | 0  | 0  | 0  | 0   | 0  | 21 | 0   | 0  | 0  | 0  | 21  |      |
| 208 Dewitt      | 0 | 580 | 576 | 4 --  | -- | 1.883991 | 0 | 39 | 0  | 0  | 0   | 246 | 0   | 0  | 0  | 0  | 0   | 0  | 0  | 0   | 0  | 0  | 0  | 285 |      |
| 209 Onondaga    | 0 | 322 | 322 | 0 --  | -- | 1.465791 | 0 | 5  | 0  | 0  | 10  | 0   | 0   | 66 | 56 | 0  | 0   | 0  | 13 | 6   | 0  | 0  | 0  | 156 |      |
| 210 Onondaga    | 0 | 81  | 76  | 5 --  | -- | 1.465791 | 0 | 28 | 0  | 0  | 23  | 0   | 0   | 0  | 14 | 0  | 0   | 0  | 3  | 14  | 0  | 0  | 0  | 82  |      |
| 211 Syracuse    | 0 | 270 | 262 | 8 --  | -- | 2.256462 | 2 | 0  | 0  | 0  | 0   | 124 | 0   | 0  | 0  | 0  | 0   | 0  | 29 | 10  | 0  | 0  | 0  | 165 |      |
| 212 Syracuse    | 0 | 488 | 483 | 5 --  | -- | 0.020548 | 0 | 0  | 0  | 0  | 0   | 160 | 0   | 0  | 0  | 0  | 0   | 0  | 5  | 7   | 0  | 0  | 0  | 172 |      |
| 213 Camillus    | 0 | 225 | 225 | 0 --  | -- | 1.706925 | 1 | 29 | 0  | 0  | 42  | 0   | 4   | 0  | 0  | 11 | 0   | 0  | 4  | 0   | 0  | 2  | 0  | 93  |      |
| 214 Camillus    | 0 | 294 | 294 | 0 --  | -- | 1.706925 | 0 | 4  | 0  | 0  | 0   | 0   | 0   | 0  | 3  | 0  | 3   | 0  | 0  | 0   | 0  | 0  | 0  | 10  |      |
| 215 Camillus    | 0 | 41  | 41  | 0 --  | -- | 1.706925 | 0 | 0  | 0  | 0  | 0   | 0   | 0   | 0  | 0  | 0  | 0   | 0  | 0  | 0   | 0  | 0  | 0  | 0   |      |
| 216 Onondaga    | 0 | 129 | 128 | 1 --  | -- | 1.615259 | 0 | 0  | 0  | 0  | 0   | 0   | 0   | 0  | 0  | 0  | 0   | 0  | 0  | 0   | 0  | 0  | 0  | 0   |      |
| 217 Syracuse    | 0 | 262 | 258 | 4 --  | -- | 0.667898 | 0 | 0  | 0  | 0  | 1   | 1   | 1   | 1  | 0  | 0  | 1   | 0  | 0  | 0   | 0  | 0  | 0  | 5   |      |
| 218 Syracuse    | 0 | 173 | 173 | 0 --  | -- | 0.667898 | 0 | 2  | 1  | 1  | 1   | 3   | 2   | 1  | 3  | 0  | 3   | 0  | 0  | 3   | 2  | 1  | 1  | 0   | 25   |
| 219 Dewitt      | 0 | 124 | 124 | 0 --  | -- | 2.139762 | 0 | 0  | 0  | 0  | 0   | 0   | 0   | 0  | 0  | 0  | 0   | 0  | 0  | 0   | 0  | 0  | 0  | 0   |      |
| 220 Dewitt      | 0 | 281 | 276 | 5 --  | -- | 2.139762 | 3 | 5  | 0  | 0  | 17  | 0   | 23  | 0  | 0  | 0  | 0   | 0  | 81 | 0   | 0  | 0  | 0  | 129 |      |
| 221 Syracuse    | 0 | 170 | 170 | 0 --  | -- | 4.256793 | 0 | 0  | 0  | 0  | 0   | 0   | 0   | 0  | 0  | 0  | 0   | 0  | 0  | 0   | 0  | 0  | 0  | 0   |      |
| 222 Syracuse    | 0 | 158 | 158 | 0 --  | -- | 4.256793 | 0 | 0  | 0  | 0  | 0   | 0   | 0   | 0  | 0  | 0  | 0   | 0  | 0  | 9   | 0  | 0  | 0  | 9   |      |
| 223 Syracuse    | 0 | 141 | 120 | 21 -- | -- | 7.750176 | 0 | 0  | 0  | 0  | 0   | 0   | 11  | 0  | 0  | 0  | 0   | 0  | 0  | 18  | 0  | 0  | 0  | 29  |      |
| 224 Syracuse    | 0 | 57  | 57  | 0 --  | -- | 7.687288 | 0 | 0  | 0  | 0  | 0   | 0   | 0   | 0  | 5  | 0  | 0   | 0  | 29 | 0   | 0  | 0  | 0  | 34  |      |
| 225 Syracuse    | 0 | 74  | 74  | 0 --  | -- | 7.687288 | 0 | 0  | 0  | 0  | 0   | 0   | 0   | 0  | 0  | 0  | 0   | 0  | 0  | 0   | 0  | 0  | 0  | 0   |      |
| 226 Fayettevill | 0 | 472 | 466 | 6 --  | -- | 0.000267 | 0 | 6  | 0  | 0  | 0   | 0   | 0   | 0  | 0  | 63 | 0   | 0  | 43 | 32  | 6  | 0  | 6  | 156 |      |
| 227 Syracuse    | 0 | 110 | 68  | 42 -- | -- | 15       | 0 | 0  | 0  | 0  | 21  | 0   | 0   | 0  | 0  | 0  | 0   | 0  | 27 | 15  | 29 | 0  | 0  | 92  |      |
| 228 Manlius     | 0 | 184 | 184 | 0 --  | -- | 0.076914 | 0 | 61 | 33 | 0  | 510 | 0   | 109 | 0  | 90 | 0  | 60  | 0  | 0  | 918 | 33 | 39 | 61 | 4   | 1918 |
| 229 Onondaga    | 0 | 73  | 73  | 0 --  | -- | 1.46989  | 0 | 0  | 0  | 0  | 0   | 104 | 0   | 0  | 0  | 0  | 0   | 0  | 14 | 5   | 0  | 0  | 0  | 123 |      |
| 230 Onondaga    | 0 | 130 | 130 | 0 --  | -- | 1.46989  | 0 | 15 | 0  | 0  | 0   | 0   | 5   | 0  | 22 | 0  | 0   | 0  | 0  | 0   | 0  | 0  | 22 | 64  |      |
| 231 Syracuse    | 0 | 322 | 322 | 0 --  | -- | 0.984892 | 0 | 0  | 9  | 0  | 0   | 0   | 0   | 0  | 0  | 0  | 0   | 0  | 0  | 0   | 0  | 0  | 0  | 9   |      |
| 232 Syracuse    | 0 | 77  | 77  | 0 --  | -- | 15       | 0 | 0  | 0  | 35 | 0   | 0   | 0   | 0  | 0  | 0  | 0   | 0  | 4  | 0   | 0  | 0  | 0  | 39  |      |
| 233 Syracuse    | 0 | 148 | 94  | 54 -- | -- | 15       | 0 | 25 | 0  | 0  | 0   | 0   | 13  | 0  | 0  | 0  | 18  | 0  | 0  | 42  | 21 | 14 | 0  | 133 |      |
| 234 Syracuse    | 0 | 385 | 385 | 0 --  | -- | 15       | 0 | 0  | 0  | 24 | 0   | 0   | 41  | 0  | 0  | 0  | 0   | 0  | 0  | 0   | 0  | 0  | 0  | 65  |      |
| 235 Syracuse    | 0 | 36  | 36  | 0 --  | -- | 15       | 0 | 0  | 0  | 0  | 0   | 125 | 5>< |    |    |    |     |    |    |     |    |    |    |     |      |



|     |          |   |      |      |        |    |          |   |    |    |    |     |     |    |    |     |    |     |   |    |     |     |    |    |    |     |      |
|-----|----------|---|------|------|--------|----|----------|---|----|----|----|-----|-----|----|----|-----|----|-----|---|----|-----|-----|----|----|----|-----|------|
| 244 | Manlius  | 0 | 498  | 498  | 0 --   | -- | 0.034934 | 0 | 0  | 0  | 0  | 83  | 0   | 0  | 0  | 51  | 27 | 0   | 0 | 0  | 0   | 0   | 0  | 0  | 0  | 161 |      |
| 245 | Syracuse | 0 | 170  | 170  | 0 --   | -- | 4.882883 | 0 | 0  | 0  | 0  | 0   | 0   | 0  | 0  | 0   | 0  | 0   | 4 | 0  | 0   | 0   | 0  | 0  | 0  | 4   |      |
| 246 | Syracuse | 0 | 169  | 169  | 0 --   | -- | 4.882883 | 0 | 0  | 0  | 0  | 0   | 0   | 0  | 0  | 0   | 0  | 0   | 0 | 30 | 0   | 0   | 0  | 0  | 0  | 30  |      |
| 247 | Syracuse | 0 | 0    | 0    | 0 --   | -- | 15       | 0 | 0  | 0  | 0  | 0   | 0   | 0  | 57 | 0   | 0  | 0   | 0 | 0  | 0   | 0   | 0  | 0  | 0  | 57  |      |
| 248 | Syracuse | 0 | 83   | 83   | 0 --   | -- | 15       | 0 | 0  | 0  | 0  | 0   | 101 | 0  | 0  | 0   | 0  | 0   | 0 | 0  | 0   | 0   | 0  | 0  | 0  | 101 |      |
| 249 | Syracuse | 0 | 306  | 290  | 16 --  | -- | 6.905163 | 0 | 0  | 0  | 0  | 0   | 17  | 29 | 0  | 0   | 51 | 0   | 0 | 0  | 0   | 175 | 0  | 0  | 3  | 275 |      |
| 250 | Syracuse | 0 | 206  | 206  | 0 --   | -- | 6.905163 | 0 | 0  | 0  | 0  | 0   | 0   | 0  | 0  | 0   | 0  | 0   | 0 | 0  | 0   | 0   | 0  | 0  | 0  | 0   |      |
| 251 | Syracuse | 0 | 149  | 149  | 0 --   | -- | 7.897091 | 0 | 0  | 0  | 0  | 0   | 44  | 0  | 0  | 0   | 0  | 0   | 0 | 0  | 0   | 13  | 0  | 0  | 0  | 57  |      |
| 252 | Syracuse | 0 | 85   | 85   | 0 --   | -- | 7.897091 | 0 | 0  | 0  | 0  | 0   | 0   | 0  | 6  | 0   | 0  | 0   | 0 | 0  | 2   | 1   | 0  | 0  | 0  | 9   |      |
| 253 | Syracuse | 0 | 146  | 140  | 6 --   | -- | 5.454634 | 0 | 9  | 0  | 0  | 0   | 0   | 0  | 0  | 0   | 0  | 0   | 0 | 61 | 37  | 0   | 0  | 0  | 0  | 107 |      |
| 254 | Dewitt   | 0 | 133  | 124  | 9 --   | -- | 5.454634 | 0 | 20 | 0  | 6  | 51  | 89  | 24 | 0  | 26  | 5  | 0   | 0 | 0  | 38  | 10  | 2  | 14 | 0  | 0   | 285  |
| 255 | Dewitt   | 0 | 274  | 270  | 4 --   | -- | 5.454634 | 0 | 3  | 0  | 5  | 0   | 116 | 8  | 13 | 19  | 4  | 0   | 0 | 0  | 30  | 4   | 2  | 11 | 0  | 0   | 215  |
| 256 | Camillus | 0 | 1308 | 1304 | 4 --   | -- | 0.078177 | 0 | 36 | 0  | 0  | 136 | 38  | 43 | 0  | 148 | 0  | 28  | 0 | 0  | 32  | 22  | 28 | 59 | 0  | 27  | 597  |
| 257 | Camillus | 0 | 801  | 801  | 0 --   | -- | 0        | 0 | 0  | 0  | 0  | 0   | 0   | 0  | 0  | 0   | 0  | 0   | 0 | 0  | 0   | 40  | 0  | 0  | 0  | 40  |      |
| 258 | Geddes   | 0 | 452  | 452  | 0 --   | -- | 0.000236 | 0 | 0  | 0  | 36 | 0   | 163 | 0  | 0  | 0   | 0  | 0   | 0 | 0  | 0   | 0   | 0  | 0  | 0  | 199 |      |
| 259 | Geddes   | 0 | 1    | 1    | 0 --   | -- | 0        | 0 | 36 | 0  | 0  | 335 | 0   | 12 | 0  | 60  | 0  | 0   | 0 | 0  | 65  | 3   | 0  | 0  | 0  | 0   | 511  |
| 260 | Syracuse | 0 | 70   | 65   | 5 --   | -- | 0        | 0 | 67 | 0  | 9  | 76  | 0   | 11 | 0  | 9   | 0  | 0   | 0 | 1  | 467 | 19  | 0  | 0  | 0  | 0   | 659  |
| 261 | Syracuse | 0 | 494  | 494  | 0 --   | -- | 12.9954  | 0 | 0  | 0  | 0  | 0   | 0   | 0  | 4  | 0   | 0  | 0   | 0 | 10 | 31  | 4   | 0  | 0  | 0  | 49  |      |
| 262 | Syracuse | 0 | 107  | 107  | 0 --   | -- | 2.478088 | 0 | 1  | 0  | 0  | 0   | 0   | 0  | 0  | 0   | 0  | 0   | 0 | 8  | 0   | 0   | 0  | 0  | 0  | 9   |      |
| 263 | Syracuse | 0 | 133  | 123  | 10 --  | -- | 2.478088 | 0 | 0  | 0  | 0  | 0   | 0   | 0  | 0  | 10  | 0  | 0   | 0 | 0  | 0   | 3   | 0  | 0  | 0  | 13  |      |
| 264 | Camillus | 0 | 159  | 159  | 0 --   | -- | 3.271145 | 0 | 21 | 0  | 17 | 18  | 22  | 9  | 0  | 0   | 31 | 0   | 0 | 0  | 0   | 7   | 0  | 0  | 0  | 125 |      |
| 265 | Camillus | 0 | 262  | 262  | 0 --   | -- | 3.271145 | 0 | 0  | 0  | 0  | 30  | 0   | 0  | 0  | 8   | 0  | 0   | 0 | 0  | 15  | 0   | 0  | 0  | 0  | 53  |      |
| 266 | Camillus | 0 | 172  | 165  | 7 --   | -- | 3.271145 | 0 | 12 | 0  | 7  | 0   | 0   | 0  | 0  | 0   | 0  | 21  | 0 | 0  | 8   | 4   | 6  | 0  | 0  | 4   | 62   |
| 267 | Camillus | 0 | 586  | 582  | 4 --   | -- | 1.746723 | 0 | 42 | 0  | 0  | 34  | 0   | 32 | 0  | 38  | 0  | 0   | 0 | 0  | 0   | 9   | 0  | 0  | 0  | 0   | 155  |
| 268 | Geddes   | 0 | 503  | 503  | 0 --   | -- | 0.010062 | 0 | 3  | 0  | 11 | 0   | 0   | 0  | 0  | 0   | 0  | 0   | 0 | 0  | 0   | 0   | 0  | 0  | 0  | 0   | 14   |
| 269 | Syracuse | 0 | 1    | 1    | 0 --   | -- | 13.56077 | 0 | 2  | 0  | 0  | 7   | 0   | 0  | 0  | 0   | 0  | 0   | 0 | 0  | 18  | 4   | 0  | 0  | 0  | 0   | 31   |
| 270 | Syracuse | 0 | 0    | 0    | 0 --   | -- | 1.932763 | 0 | 0  | 0  | 0  | 0   | 0   | 0  | 0  | 0   | 0  | 0   | 0 | 0  | 0   | 0   | 0  | 0  | 0  | 0   | 0    |
| 271 | Syracuse | 0 | 419  | 417  | 2 --   | -- | 1.932763 | 0 | 0  | 0  | 6  | 20  | 153 | 10 | 0  | 0   | 0  | 10  | 0 | 0  | 7   | 0   | 0  | 0  | 10 | 215 |      |
| 272 | Syracuse | 0 | 239  | 206  | 33 --  | -- | 8.734152 | 0 | 1  | 0  | 0  | 6   | 0   | 2  | 0  | 18  | 0  | 0   | 0 | 0  | 0   | 1   | 0  | 0  | 0  | 0   | 28   |
| 273 | Syracuse | 0 | 55   | 4    | 51 --  | -- | 15       | 0 | 10 | 0  | 8  | 6   | 0   | 0  | 0  | 0   | 0  | 8   | 0 | 0  | 4   | 19  | 5  | 0  | 0  | 0   | 60   |
| 274 | Syracuse | 0 | 344  | 295  | 49 --  | -- | 15       | 0 | 0  | 0  | 0  | 0   | 0   | 0  | 0  | 0   | 0  | 0   | 0 | 0  | 39  | 25  | 0  | 0  | 0  | 0   | 64   |
| 275 | Camillus | 0 | 63   | 63   | 0 --   | -- | 0        | 0 | 16 | 0  | 7  | 70  | 366 | 37 | 41 | 9   | 0  | 0   | 0 | 0  | 476 | 12  | 0  | 0  | 0  | 0   | 1034 |
| 276 | Syracuse | 0 | 265  | 265  | 0 --   | -- | 4.45837  | 0 | 0  | 0  | 0  | 0   | 0   | 0  | 0  | 0   | 16 | 0   | 0 | 9  | 0   | 0   | 0  | 0  | 0  | 0   | 25   |
| 277 | Syracuse | 0 | 182  | 179  | 3 --   | -- | 4.45837  | 0 | 4  | 0  | 4  | 0   | 0   | 0  | 0  | 0   | 0  | 0   | 0 | 0  | 0   | 0   | 0  | 0  | 0  | 0   | 8    |
| 278 | Syracuse | 0 | 85   | 85   | 0 --   | -- | 4.45837  | 0 | 0  | 0  | 0  | 0   | 0   | 0  | 0  | 23  | 0  | 0   | 0 | 0  | 0   | 0   | 0  | 0  | 0  | 0   | 23   |
| 279 | Syracuse | 0 | 668  | 0    | 668 -- | -- | 20       | 0 | 2  | 1  | 1  | 1   | 3   | 2  | 1  | 3   | 0  | 3   | 0 | 0  | 3   | 2   | 1  | 1  | 0  | 1   | 25   |
| 280 | Syracuse | 0 | 659  | 1    | 658 -- | -- | 20       | 0 | 89 | 0  | 34 | 0   | 0   | 0  | 0  | 0   | 0  | 173 | 0 | 0  | 1   | 0   | 0  | 0  | 0  | 0   | 297  |
| 281 | Syracuse | 0 | 360  | 340  | 20 --  | -- | 10.61111 | 0 | 0  | 0  | 3  | 0   | 13  | 0  | 0  | 11  | 0  | 0   | 0 | 0  | 0   | 3   | 3  | 0  | 0  | 3   | 35   |
| 282 | Syracuse | 0 | 0    | 0    | 0 --   | -- | 15       | 0 | 0  | 0  | 0  | 0   | 0   | 0  | 0  | 0   | 0  | 0   | 0 | 0  | 0   | 0   | 0  | 0  | 0  | 0   | 0    |
| 283 | Syracuse | 0 | 311  | 280  | 31 --  | -- | 15       | 0 | 0  | 43 | 0  | 0   | 0   | 0  | 0  | 1   | 0  | 0   | 0 | 0  | 0   | 1   | 0  | 0  | 0  | 0   | 45   |
| 284 | Syracuse | 0 | 842  | 142  | 700 -- | -- | 15       | 0 | 6  | 1  | 2  | 3   | 7   | 4  | 2  | 6   | 1  | 4   | 1 | 0  | 2   | 3   | 2  | 2  | 1  | 2   | 49   |
| 285 | Syracuse | 0 | 271  | 265  | 6 --   | -- | 15       | 0 | 0  | 0  | 0  | 0   | 0   | 0  | 0  | 0   | 0  | 0   | 0 | 0  | 0   | 2   | 0  | 0  | 0  | 0   | 2    |
| 286 | Syracuse | 0 | 193  | 193  | 0 --   | -- | 15       | 0 | 0  | 29 | 0  | 52  | 0   | 18 | 0  | 0   | 0  | 0   | 0 | 0  | 23  | 19  | 33 | 0  | 0  | 0   | 174  |
| 287 | Elbridge | 0 | 254  | 254  | 0 --   | -- | 2.072539 | 0 | 8  | 0  | 0  | 3   | 42  | 0  | 0  | 0   | 1  | 0   | 0 | 0  | 2   | 3   | 0  | 0  | 0  | 15  | 75   |
| 288 | Elbridge | 0 | 221  | 217  | 4 --   | -- | 2.072539 | 3 | 65 | 0  | 24 | 0   | 140 | 1  | 1  | 0   | 0  | 0   | 0 | 0  | 9   | 9   | 0  | 24 | 1  | 0   | 276  |
| 289 | Elbridge | 0 | 218  | 218  | 0 --   | -- | 2.072539 | 0 | 51 | 0  | 0  |     |     |    |    |     |    |     |   |    |     |     |    |    |    |     |      |



|              |   |     |     |        |    |          |   |     |     |    |     |     |     |     |     |     |    |   |     |     |     |     |    |      |     |     |
|--------------|---|-----|-----|--------|----|----------|---|-----|-----|----|-----|-----|-----|-----|-----|-----|----|---|-----|-----|-----|-----|----|------|-----|-----|
| 305 Syracuse | 0 | 47  | 47  | 0 --   | -- | 15       | 0 | 19  | 0   | 0  | 0   | 124 | 0   | 0   | 0   | 0   | 52 | 0 | 5   | 28  | 0   | 0   | 0  | 0    | 228 |     |
| 306 Syracuse | 0 | 21  | 21  | 0 --   | -- | 15       | 0 | 16  | 0   | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 3 | 1   | 0   | 58  | 318 | 0  | 0    | 397 |     |
| 307 Syracuse | 0 | 48  | 21  | 27 --  | -- | 15       | 0 | 0   | 0   | 0  | 0   | 0   | 0   | 0   | 0   | 13  | 0  | 0 | 0   | 0   | 0   | 0   | 0  | 13   |     |     |
| 308 Syracuse | 0 | 0   | 0   | 0 --   | -- | 15       | 0 | 0   | 0   | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0 | 0   | 0   | 0   | 0   | 0  | 0    |     |     |
| 309 Syracuse | 0 | 70  | 0   | 70 --  | -- | 5.377607 | 0 | 74  | 0   | 0  | 0   | 249 | 0   | 0   | 0   | 0   | 0  | 0 | 344 | 77  | 49  | 0   | 0  | 793  |     |     |
| 310 Syracuse | 0 | 1   | 1   | 0 --   | -- | 5.377607 | 0 | 5   | 0   | 0  | 30  | 0   | 0   | 0   | 41  | 0   | 0  | 0 | 1   | 4   | 19  | 0   | 0  | 100  |     |     |
| 311 Syracuse | 0 | 420 | 414 | 6 --   | -- | 2.210858 | 0 | 16  | 0   | 0  | 0   | 0   | 31  | 0   | 0   | 0   | 0  | 6 | 3   | 5   | 0   | 16  | 0  | 76   |     |     |
| 312 Syracuse | 0 | 0   | 0   | 0 --   | -- | 20       | 0 | 178 | 0   | 0  | 65  | 0   | 106 | 0   | 715 | 0   | 0  | 0 | 62  | 24  | 0   | 10  | 0  | 1160 |     |     |
| 313 Syracuse | 0 | 0   | 0   | 0 --   | -- | 20       | 0 | 0   | 0   | 0  | 0   | 94  | 0   | 0   | 0   | 0   | 0  | 0 | 0   | 0   | 0   | 0   | 0  | 94   |     |     |
| 314 Syracuse | 0 | 96  | 0   | 96 --  | -- | 20       | 0 | 3   | 0   | 0  | 0   | 124 | 0   | 0   | 0   | 149 | 0  | 0 | 0   | 11  | 0   | 0   | 0  | 287  |     |     |
| 315 Syracuse | 0 | 0   | 0   | 0 --   | -- | 20       | 0 | 0   | 0   | 0  | 0   | 329 | 0   | 0   | 33  | 0   | 0  | 0 | 34  | 5   | 5   | 0   | 0  | 406  |     |     |
| 316 Syracuse | 0 | 0   | 0   | 0 --   | -- | 20       | 0 | 0   | 49  | 0  | 0   | 344 | 0   | 0   | 0   | 0   | 0  | 0 | 1   | 9   | 0   | 0   | 0  | 403  |     |     |
| 317 Syracuse | 0 | 243 | 33  | 210 -- | -- | 20       | 0 | 9   | 173 | 0  | 0   | 25  | 0   | 0   | 0   | 0   | 0  | 0 | 0   | 0   | 0   | 0   | 0  | 207  |     |     |
| 318 Syracuse | 0 | 260 | 6   | 254 -- | -- | 20       | 0 | 2   | 1   | 1  | 1   | 3   | 2   | 1   | 3   | 0   | 3  | 0 | 3   | 2   | 1   | 1   | 0  | 1    | 25  |     |
| 319 Syracuse | 0 | 0   | 0   | 0 --   | -- | 1.718498 | 0 | 0   | 0   | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0 | 0   | 50  | 135 | 0   | 0  | 185  |     |     |
| 320 Syracuse | 0 | 198 | 198 | 0 --   | -- | 15       | 0 | 1   | 0   | 0  | 0   | 0   | 0   | 0   | 9   | 0   | 12 | 0 | 4   | 1   | 2   | 0   | 0  | 29   |     |     |
| 321 Syracuse | 0 | 72  | 72  | 0 --   | -- | 15       | 0 | 1   | 0   | 0  | 0   | 124 | 3   | 0   | 26  | 0   | 1  | 0 | 1   | 8   | 7   | 0   | 0  | 171  |     |     |
| 322 Syracuse | 0 | 62  | 62  | 0 --   | -- | 15       | 0 | 1   | 0   | 0  | 0   | 12  | 2   | 0   | 35  | 0   | 0  | 0 | 0   | 31  | 13  | 0   | 0  | 95   |     |     |
| 323 Syracuse | 0 | 92  | 92  | 0 --   | -- | 15       | 0 | 0   | 0   | 0  | 0   | 0   | 0   | 0   | 10  | 0   | 0  | 0 | 1   | 0   | 3   | 0   | 0  | 14   |     |     |
| 324 Manlius  | 0 | 241 | 241 | 0 --   | -- | 2.618662 | 3 | 0   | 0   | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0 | 8   | 42  | 0   | 0   | 0  | 12   | 65  |     |
| 325 Manlius  | 0 | 136 | 136 | 0 --   | -- | 2.618662 | 0 | 0   | 0   | 0  | 0   | 0   | 7   | 0   | 32  | 30  | 0  | 0 | 0   | 32  | 0   | 0   | 0  | 13   | 114 |     |
| 326 Syracuse | 0 | 83  | 1   | 82 --  | -- | 15       | 0 | 1   | 0   | 0  | 1   | 1   | 1   | 0   | 1   | 0   | 1  | 0 | 2   | 1   | 0   | 0   | 0  | 1    | 10  |     |
| 327 Syracuse | 0 | 131 | 65  | 66 --  | -- | 15       | 0 | 0   | 0   | 0  | 0   | 0   | 11  | 0   | 0   | 0   | 0  | 0 | 0   | 0   | 0   | 0   | 0  | 0    | 11  |     |
| 328 Syracuse | 0 | 464 | 0   | 464 -- | -- | 20       | 0 | 0   | 0   | 0  | 0   | 15  | 0   | 0   | 0   | 0   | 0  | 0 | 0   | 1   | 0   | 0   | 0  | 16   |     |     |
| 329 Syracuse | 0 | 225 | 0   | 225 -- | -- | 20       | 0 | 0   | 0   | 0  | 0   | 192 | 0   | 0   | 0   | 0   | 0  | 0 | 0   | 0   | 1   | 0   | 0  | 0    | 193 |     |
| 330 Syracuse | 0 | 123 | 123 | 0 --   | -- | 15       | 0 | 11  | 0   | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0 | 0   | 0   | 0   | 0   | 0  | 0    | 11  |     |
| 331 Syracuse | 0 | 85  | 85  | 0 --   | -- | 15       | 0 | 1   | 0   | 0  | 1   | 1   | 1   | 0   | 1   | 0   | 1  | 0 | 2   | 1   | 0   | 0   | 0  | 1    | 10  |     |
| 332 Dewitt   | 0 | 233 | 233 | 0 --   | -- | 2.711263 | 0 | 46  | 0   | 0  | 0   | 75  | 0   | 0   | 0   | 0   | 0  | 0 | 0   | 14  | 0   | 0   | 0  | 0    | 135 |     |
| 333 Dewitt   | 0 | 140 | 130 | 10 --  | -- | 2.711263 | 0 | 13  | 0   | 0  | 85  | 0   | 0   | 0   | 0   | 25  | 0  | 0 | 0   | 147 | 56  | 0   | 0  | 0    | 326 |     |
| 334 Camillus | 0 | 610 | 606 | 4 --   | -- | 0.002711 | 1 | 38  | 0   | 0  | 18  | 109 | 99  | 136 | 0   | 0   | 4  | 0 | 0   | 124 | 37  | 0   | 0  | 29   | 595 |     |
| 335 Syracuse | 0 | 168 | 168 | 0 --   | -- | 5.485097 | 0 | 0   | 0   | 0  | 0   | 110 | 2   | 0   | 1   | 0   | 0  | 0 | 8   | 5   | 9   | 0   | 0  | 0    | 135 |     |
| 336 Syracuse | 0 | 217 | 217 | 0 --   | -- | 5.485097 | 0 | 0   | 0   | 0  | 28  | 0   | 8   | 0   | 27  | 0   | 0  | 0 | 1   | 22  | 35  | 0   | 0  | 0    | 121 |     |
| 337 Syracuse | 0 | 0   | 0   | 0 --   | -- | 20       | 0 | 35  | 33  | 7  | 65  | 37  | 0   | 0   | 16  | 0   | 0  | 0 | 1   | 81  | 0   | 0   | 0  | 134  | 409 |     |
| 338 Syracuse | 0 | 0   | 0   | 0 --   | -- | 20       | 0 | 0   | 0   | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0 | 0   | 0   | 0   | 11  | 0  | 0    | 11  |     |
| 339 Syracuse | 0 | 67  | 67  | 0 --   | -- | 20       | 0 | 1   | 0   | 0  | 0   | 0   | 61  | 0   | 0   | 0   | 0  | 0 | 0   | 0   | 3   | 0   | 0  | 0    | 65  |     |
| 340 Syracuse | 0 | 0   | 0   | 0 --   | -- | 20       | 0 | 0   | 0   | 0  | 0   | 0   | 0   | 0   | 191 | 0   | 0  | 0 | 0   | 0   | 0   | 0   | 0  | 0    | 191 |     |
| 341 Syracuse | 0 | 0   | 0   | 0 --   | -- | 20       | 0 | 12  | 0   | 0  | 0   | 224 | 0   | 0   | 16  | 0   | 0  | 0 | 0   | 0   | 0   | 0   | 0  | 0    | 252 |     |
| 342 Syracuse | 0 | 0   | 0   | 0 --   | -- | 20       | 0 | 33  | 12  | 0  | 186 | 6   | 27  | 0   | 216 | 0   | 5  | 0 | 0   | 59  | 0   | 10  | 27 | 0    | 580 |     |
| 343 Syracuse | 0 | 196 | 196 | 0 --   | -- | 20       | 0 | 1   | 0   | 0  | 1   | 1   | 1   | 0   | 1   | 0   | 1  | 0 | 2   | 1   | 0   | 0   | 0  | 1    | 10  |     |
| 344 Syracuse | 0 | 4   | 0   | 4 --   | -- | 20       | 0 | 7   | 0   | 0  | 0   | 36  | 0   | 0   | 0   | 0   | 0  | 0 | 0   | 1   | 0   | 0   | 0  | 0    | 45  |     |
| 345 Syracuse | 0 | 136 | 136 | 0 --   | -- | 20       | 0 | 0   | 0   | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0 | 0   | 9   | 0   | 10  | 0  | 0    | 19  |     |
| 346 Syracuse | 0 | 62  | 0   | 62 --  | -- | 20       | 0 | 0   | 0   | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0 | 0   | 6   | 0   | 0   | 0  | 0    | 6   |     |
| 347 Syracuse | 0 | 208 | 208 | 0 --   | -- | 15       | 0 | 0   | 0   | 0  | 0   | 24  | 0   | 0   | 0   | 0   | 0  | 0 | 0   | 1   | 0   | 0   | 0  | 0    | 25  |     |
| 348 Syracuse | 0 | 223 | 223 | 0 --   | -- | 15       | 0 | 8   | 0   | 8  | 3   | 2   | 1   | 0   | 226 | 1   | 0  | 0 | 0   | 5   | 54  | 0   | 0  | 0    | 308 |     |
| 349 Geddes   | 0 | 211 | 211 | 0 --   | -- | 2.802125 | 0 | 0   | 0   | 11 | 0   | 0   | 9   | 0   | 0   | 0   | 0  | 0 | 2   | 9   | 0   | 0   | 0  | 0    | 31  |     |
| 350 Camillus | 0 | 501 | 501 | 0 --   | -- | 0.188091 | 0 | 16  | 0   | 0  | 0   | 0   | 0   | 0   | 400 | 0   | 0  | 0 | 0   | 83  | 32  | 0   | 0  | 0    | 531 |     |
| 351 Manlius  | 0 | 380 | 380 | 0 --   | -- | 1.354432 | 0 | 0   | 0   | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0 | 0   | 20  | 0   | 75  | 0  | 0    | 95  |     |
| 352 Manlius  | 0 | 57  | 52  | 5 --   | -- | 1.354432 | 0 | 0   | 0   | 0  | 0   | 0   | 0   | 145 | 0   | 0   | 0  | 0 | 0   | 0   | 0   | 0   | 0  | 0    | 145 |     |
| 353 Syracuse | 0 | 370 | 321 | 49 --  | -- | 12.93815 | 0 | 0   | 0   | 0  | 0   | 15  | 2   | 0   | 0   | 0   | 0  | 0 | 21  | 4   | 28  | 0   | 0  | 0    | 70  |     |
| 354 Syracuse | 0 | 77  | 77  | 0 --   | -- | 12.93815 | 0 | 0   | 0   | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0 | 0   | 0   | 0   | 0   | 0  | 0    | 0   |     |
| 355 Syracuse | 0 | 0   | 0   | 0 --   | -- | 20       | 2 | 89  | 4   | 0  | 0   | 0   | 310 | 6   | 6   | 0   | 1  | 0 | 0   | 6   | 24  | 2   | 0  | 1    | 11  | 462 |
| 356 Syracuse | 0 | 0   | 0   | 0 --   | -- | 20       | 1 | 66  | 0   | 0  | 1   | 0   | 3   | 1   | 16  | 0   | 0  | 0 | 0   | 31  | 5   | 0   | 0  | 0    | 125 |     |
| 357 Geddes   | 0 | 380 | 380 | 0 --   | -- | 0.542659 | 0 | 1   | 0   | 3  | 0   | 9   | 0   | 0   | 1   | 0   | 0  | 0 | 0   | 3   | 0   | 0   | 0  | 1    | 18  |     |
| 358 Syracuse | 0 | 154 | 145 | 9 --   | -- | 13.30585 | 0 | 0   | 0   | 0  | 0   | 0   | 3   | 0   |     |     |    |   |     |     |     |     |    |      |     |     |



|              |   |      |      |        |    |          |   |      |     |    |     |     |      |     |     |    |     |   |     |      |     |     |     |    |     |      |
|--------------|---|------|------|--------|----|----------|---|------|-----|----|-----|-----|------|-----|-----|----|-----|---|-----|------|-----|-----|-----|----|-----|------|
| 366 Solvay   | 0 | 225  | 225  | 0 --   | -- | 2.016784 | 0 | 44   | 0   | 38 | 21  | 0   | 15   | 0   | 91  | 0  | 0   | 0 | 0   | 43   | 6   | 11  | 0   | 0  | 6   | 275  |
| 367 Geddes   | 0 | 186  | 186  | 0 --   | -- | 0.093832 | 0 | 0    | 0   | 0  | 0   | 56  | 7    | 0   | 4   | 0  | 0   | 0 | 0   | 0    | 9   | 0   | 0   | 0  | 7   | 83   |
| 368 Syracuse | 0 | 59   | 59   | 0 --   | -- | 2.008414 | 0 | 0    | 0   | 0  | 0   | 0   | 0    | 0   | 0   | 0  | 0   | 0 | 0   | 0    | 0   | 0   | 0   | 0  | 0   | 0    |
| 369 Syracuse | 0 | 485  | 485  | 0 --   | -- | 2.008414 | 0 | 5    | 0   | 11 | 20  | 0   | 0    | 26  | 0   | 0  | 0   | 0 | 0   | 0    | 0   | 18  | 0   | 0  | 0   | 80   |
| 370 Syracuse | 0 | 298  | 298  | 0 --   | -- | 2.008414 | 0 | 0    | 0   | 0  | 0   | 0   | 0    | 0   | 0   | 0  | 0   | 0 | 0   | 0    | 0   | 0   | 0   | 0  | 0   | 0    |
| 371 Syracuse | 1 | 0    | 0    | 0 --   | -- | 20       | 0 | 43   | 0   | 0  | 4   | 0   | 5    | 0   | 8   | 0  | 3   | 0 | 44  | 0    | 629 | 0   | 12  | 0  | 0   | 748  |
| 372 Syracuse | 0 | 840  | 840  | 0 --   | -- | 20       | 0 | 24   | 0   | 0  | 5   | 0   | 13   | 0   | 228 | 0  | 10  | 0 | 14  | 1    | 233 | 10  | 5   | 0  | 33  | 575  |
| 373 Syracuse | 0 | 140  | 0    | 140 -- | -- | 20       | 0 | 3    | 0   | 0  | 5   | 0   | 56   | 0   | 127 | 0  | 0   | 0 | 15  | 4    | 0   | 0   | 4   | 0  | 9   | 223  |
| 374 Syracuse | 0 | 282  | 0    | 282 -- | -- | 15       | 0 | 49   | 0   | 0  | 0   | 0   | 0    | 0   | 0   | 0  | 71  | 0 | 0   | 17   | 9   | 208 | 0   | 0  | 7   | 361  |
| 375 Syracuse | 0 | 0    | 0    | 0 --   | -- | 20       | 0 | 1111 | 0   | 0  | 0   | 0   | 295  | 0   | 10  | 0  | 0   | 0 | 0   | 24   | 0   | 0   | 0   | 0  | 0   | 1440 |
| 376 Syracuse | 0 | 0    | 0    | 0 --   | -- | 20       | 0 | 62   | 0   | 11 | 26  | 0   | 26   | 0   | 0   | 24 | 13  | 0 | 0   | 34   | 41  | 17  | 0   | 0  | 0   | 254  |
| 377 Syracuse | 0 | 81   | 81   | 0 --   | -- | 20       | 0 | 72   | 0   | 0  | 31  | 366 | 529  | 380 | 0   | 43 | 8   | 0 | 0   | 78   | 49  | 0   | 196 | 0  | 0   | 1752 |
| 378 Syracuse | 0 | 188  | 0    | 188 -- | -- | 20       | 0 | 0    | 0   | 2  | 0   | 138 | 0    | 352 | 44  | 41 | 30  | 0 | 0   | 21   | 25  | 0   | 0   | 0  | 7   | 660  |
| 379 Syracuse | 0 | 24   | 0    | 24 --  | -- | 20       | 0 | 1    | 0   | 3  | 0   | 43  | 0    | 342 | 325 | 39 | 29  | 0 | 0   | 1    | 0   | 20  | 0   | 0  | 8   | 811  |
| 380 Syracuse | 0 | 0    | 0    | 0 --   | -- | 20       | 0 | 0    | 0   | 0  | 14  | 2   | 0    | 0   | 126 | 0  | 0   | 0 | 0   | 0    | 1   | 0   | 0   | 0  | 0   | 143  |
| 381 Syracuse | 0 | 0    | 0    | 0 --   | -- | 20       | 0 | 0    | 0   | 0  | 43  | 6   | 0    | 0   | 333 | 0  | 0   | 0 | 0   | 0    | 0   | 0   | 0   | 0  | 0   | 382  |
| 382 Syracuse | 0 | 0    | 0    | 0 --   | -- | 20       | 0 | 32   | 0   | 2  | 0   | 65  | 24   | 375 | 10  | 42 | 30  | 0 | 0   | 28   | 141 | 0   | 0   | 0  | 8   | 757  |
| 383 Geddes   | 0 | 171  | 167  | 4 --   | -- | 2.828985 | 0 | 0    | 0   | 0  | 0   | 19  | 0    | 0   | 0   | 0  | 0   | 0 | 0   | 0    | 0   | 0   | 0   | 0  | 0   | 19   |
| 384 Syracuse | 0 | 108  | 108  | 0 --   | -- | 15       | 0 | 31   | 5   | 3  | 9   | 204 | 27   | 96  | 28  | 0  | 69  | 0 | 4   | 44   | 9   | 0   | 19  | 0  | 110 | 660  |
| 385 Syracuse | 0 | 195  | 195  | 0 --   | -- | 15       | 0 | 19   | 4   | 78 | 2   | 19  | 2    | 55  | 11  | 0  | 25  | 0 | 2   | 137  | 8   | 0   | 12  | 0  | 19  | 393  |
| 386 Dewitt   | 0 | 164  | 160  | 4 --   | -- | 0.076502 | 0 | 606  | 285 | 46 | 0   | 17  | 1418 | 6   | 3   | 0  | 8   | 0 | 217 | 176  | 21  | 0   | 12  | 3  | 35  | 2853 |
| 387 Dewitt   | 0 | 112  | 112  | 0 --   | -- | 0.076502 | 0 | 135  | 168 | 0  | 0   | 22  | 65   | 0   | 23  | 0  | 7   | 0 | 283 | 1058 | 29  | 0   | 15  | 4  | 6   | 1814 |
| 388 Syracuse | 0 | 154  | 154  | 0 --   | -- | 15       | 0 | 0    | 0   | 7  | 0   | 0   | 11   | 0   | 14  | 0  | 0   | 0 | 0   | 1    | 0   | 0   | 0   | 0  | 0   | 33   |
| 389 Syracuse | 0 | 190  | 190  | 0 --   | -- | 15       | 0 | 0    | 0   | 1  | 0   | 0   | 2    | 0   | 2   | 0  | 0   | 0 | 0   | 0    | 0   | 0   | 0   | 0  | 0   | 5    |
| 390 Syracuse | 0 | 146  | 146  | 0 --   | -- | 20       | 0 | 0    | 0   | 22 | 0   | 0   | 39   | 0   | 57  | 0  | 0   | 0 | 0   | 0    | 0   | 0   | 0   | 0  | 0   | 118  |
| 391 Syracuse | 0 | 211  | 201  | 10 --  | -- | 15       | 0 | 6    | 0   | 2  | 0   | 0   | 4    | 0   | 0   | 0  | 0   | 0 | 0   | 2    | 0   | 15  | 0   | 0  | 0   | 29   |
| 392 Syracuse | 0 | 39   | 39   | 0 --   | -- | 20       | 0 | 9    | 0   | 8  | 0   | 0   | 12   | 0   | 4   | 0  | 0   | 0 | 0   | 3    | 0   | 0   | 0   | 0  | 0   | 36   |
| 393 Camillus | 0 | 28   | 28   | 0 --   | -- | 0        | 0 | 0    | 0   | 0  | 187 | 0   | 11   | 0   | 0   | 0  | 0   | 0 | 0   | 1011 | 0   | 0   | 0   | 0  | 0   | 1209 |
| 394 Camillus | 0 | 382  | 379  | 3 --   | -- | 2.437705 | 0 | 17   | 0   | 0  | 53  | 0   | 0    | 0   | 21  | 31 | 0   | 0 | 0   | 0    | 0   | 17  | 0   | 0  | 0   | 139  |
| 395 Syracuse | 0 | 0    | 0    | 0 --   | -- | 15       | 4 | 252  | 412 | 23 | 90  | 41  | 184  | 3   | 1   | 11 | 158 | 0 | 0   | 0    | 37  | 1   | 1   | 1  | 9   | 1228 |
| 396 Syracuse | 0 | 78   | 78   | 0 --   | -- | 15       | 6 | 231  | 102 | 17 | 385 | 11  | 91   | 3   | 131 | 48 | 28  | 0 | 0   | 78   | 64  | 31  | 5   | 2  | 15  | 1248 |
| 397 Syracuse | 0 | 185  | 185  | 0 --   | -- | 15       | 0 | 4    | 0   | 4  | 49  | 0   | 61   | 0   | 0   | 7  | 0   | 0 | 0   | 7    | 129 | 1   | 5   | 0  | 0   | 267  |
| 398 Camillus | 0 | 1322 | 1318 | 4 --   | -- | 1.364506 | 0 | 71   | 0   | 5  | 0   | 0   | 98   | 15  | 55  | 0  | 0   | 0 | 0   | 330  | 9   | 81  | 0   | 61 | 0   | 725  |
| 399 Syracuse | 0 | 461  | 458  | 3 --   | -- | 8.910176 | 0 | 0    | 0   | 0  | 0   | 16  | 0    | 0   | 0   | 0  | 0   | 0 | 0   | 0    | 3   | 0   | 0   | 0  | 0   | 19   |
| 400 Syracuse | 0 | 124  | 124  | 0 --   | -- | 15       | 0 | 5    | 0   | 0  | 8   | 0   | 0    | 0   | 0   | 0  | 0   | 0 | 0   | 10   | 0   | 0   | 0   | 0  | 0   | 23   |
| 401 Syracuse | 0 | 21   | 21   | 0 --   | -- | 15       | 0 | 5    | 0   | 24 | 24  | 0   | 30   | 0   | 10  | 0  | 0   | 0 | 0   | 24   | 0   | 0   | 0   | 0  | 0   | 118  |
| 402 Camillus | 0 | 646  | 642  | 4 --   | -- | 1.400718 | 0 | 26   | 0   | 0  | 34  | 143 | 154  | 0   | 81  | 0  | 85  | 0 | 0   | 90   | 20  | 0   | 7   | 52 | 0   | 692  |
| 403 Syracuse | 0 | 0    | 0    | 0 --   | -- | 20       | 0 | 74   | 0   | 0  | 0   | 9   | 0    | 0   | 48  | 0  | 0   | 0 | 0   | 0    | 12  | 0   | 0   | 0  | 0   | 143  |
| 404 Syracuse | 0 | 133  | 133  | 0 --   | -- | 20       | 0 | 1    | 0   | 0  | 0   | 1   | 0    | 0   | 10  | 0  | 0   | 0 | 0   | 0    | 1   | 58  | 0   | 0  | 0   | 71   |
| 405 Syracuse | 0 | 230  | 230  | 0 --   | -- | 20       | 0 | 27   | 0   | 0  | 22  | 7   | 0    | 0   | 77  | 0  | 0   | 0 | 0   | 27   | 15  | 0   | 0   | 0  | 0   | 175  |
| 406 Syracuse | 0 | 66   | 66   | 0 --   | -- | 2.099814 | 0 | 1    | 0   | 0  | 0   | 0   | 0    | 0   | 0   | 0  | 0   | 0 | 0   | 0    | 0   | 0   | 0   | 0  | 0   | 1    |
| 407 Syracuse | 0 | 216  | 214  | 2 --   | -- | 2.099814 | 0 | 0    | 0   | 0  | 4   | 0   | 0    | 0   | 0   | 0  | 0   | 0 | 0   | 0    | 0   | 0   | 0   | 0  | 0   | 4    |
| 408 Syracuse | 0 | 0    | 0    | 0 --   | -- | 20       | 0 | 63   | 0   | 0  | 0   | 55  | 0    | 42  | 0   | 0  | 0   | 0 | 6   | 5    | 0   | 14  | 0   | 0  | 0   | 185  |
| 409 Syracuse | 0 | 0    | 0    | 0 --   | -- | 20       | 0 | 33   | 0   | 0  | 0   | 0   | 0    | 31  | 65  | 0  | 0   | 0 | 5   | 1    | 0   | 0   | 0   | 0  | 84  | 219  |
| 410 Syracuse | 0 | 137  | 137  | 0 --   | -- | 20       | 0 | 168  | 0   | 16 | 69  | 0   | 68   | 0   | 22  | 0  | 70  | 0 | 2   | 25   | 22  | 0   | 0   | 0  | 0   | 462  |
| 411 Syracuse | 0 | 0    | 0    | 0 --   | -- | 20       | 0 | 523  | 0   | 19 | 1   | 0   | 256  | 0   | 1   | 0  | 0   | 0 | 3   | 0    | 2   | 0   | 0   | 0  | 0   | 805  |
| 412 Syracuse | 0 | 222  | 128  | 94 --  | -- | 20       | 0 | 107  | 0   | 31 | 3   | 0   | 69   | 7   | 61  | 0  | 0   | 0 | 0   | 17   | 51  | 54  | 5   | 2  | 0   | 407  |
| 413 Syracuse | 0 | 0    | 0    | 0 --   | -- | 20       | 0 | 77   | 0   | 0  | 0   | 0   | 406  | 0   | 0   | 0  | 0   | 0 | 0   | 0    | 0   | 0   | 0   | 3  | 0   | 485  |
| 414 Syracuse | 0 | 31   | 31   | 0 --   | -- | 20       | 0 | 30   | 0   | 0  | 3   | 30  | 342  | 12  | 4   | 0  | 1   | 0 | 0   | 20   | 11  | 0   | 0   | 2  | 0   | 455  |
| 415 Syracuse | 0 | 140  | 140  | 0 --   | -- | 20       | 0 | 472  | 0   | 0  | 7   | 0   | 135  | 106 | 18  | 0  | 4   | 0 | 0   | 31   | 10  | 122 | 3   | 4  | 0   | 913  |
| 416 Camillus | 0 | 335  | 335  | 0 --   | -- | 4.254137 | 0 | 17   | 0   | 0  | 73  | 0   | 0    | 0   | 0   | 0  | 8   | 0 | 0   | 28   | 0   | 4   | 22  | 0  | 0   | 152  |
| 417 Syracuse | 0 | 27   | 27   | 0 --   | -- | 20       | 0 | 50   | 0   | 0  | 6   | 21  | 209  | 438 | 0   | 0  | 0   | 0 | 0   | 2    | 4   | 58  | 0   | 0  | 0   | 788  |
| 418 Syracuse | 0 | 0    | 0    | 0 --   | -- | 20       | 0 | 0    | 0   | 0  | 0   | 0   | 0    | 0   | 0   | 0  | 0   | 0 | 0   | 0    | 0   | 0   | 0   | 0  | 0   | 0    |
| 419 Syracuse | 0 | 0    | 0    | 0 --   | -- | 20       | 0 | 16   | 0   | 13 | 10  | 0   | 123  | 179 | 12  | 0  | 0   | 0 | 0   | 0    | 0   | 25  | 0   | 0  | 6   | 384  |
| 420 Syracuse | 0 | 0    | 0    | 0 --   | -- | 20       | 0 | 10   | 12  | 0  | 0   | 0   | 0    | 149 | 11  | 0  | 0   | 0 | 0   | 4    | 0   | 20  | 0   | 0  | 0   | 205  |
| 421 Syracuse | 0 | 389  | 389  | 0 --   | -- | 7.317591 | 0 | 0    | 0   | 0  | 0   | 39  | 0    | 0   | 0   | 0  | 0   | 0 | 0   | 0    | 0   | 0   | 0   | 0  | 0   | 39   |
| 422 Syracuse | 0 | 0    | 0    | 0 --   | -- | 15       | 0 | 2    | 148 | 0  | 0   | 0   | 3    | 0   | 0   | 0  | 9   | 0 | 2   | 2    | 12  | 0   | 0   | 0  | 7   | 185  |
| 423 Syracuse | 0 | 0    | 0    | 0 --   | -- | 20       | 0 | 1    | 0   | 0  | 0   | 0   | 1    | 14  | 0   | 0  | 0   | 0 | 1   | 7    | 14  | 0   | 19  | 0  | 11  | 68   |
| 424 Syracuse | 0 | 0    | 0    | 0 --   | -- | 20       | 0 | 0    | 0   | 0  | 0   | 0   | 6    | 0   | 80  | 0  | 0   | 0 | 3   | 16   | 0   | 0   | 0   | 0  | 0   | 105  |
| 425 Syracuse | 0 | 34   | 34   | 0 --   | -- | 20       | 0 | 0    | 0   | 0  | 0   | 0   | 0    | 0   | 0   | 0  | 0   | 0 | 0   | 0    | 0   | 6   | 0   | 0  | 0   | 6    |
| 426 Syracuse | 0 | 0    | 0    | 0 --   | -- | 15       | 0 | 17   | 0   | 0  | 0   | 0   | 7    | 43  | 19  | 0  | 0   | 0 | 1   | 36   | 12  | 0   | 0   | 0  | 0   | 135  |



|              |   |     |     |        |    |          |   |     |    |     |     |    |      |     |     |     |     |   |   |     |     |     |     |     |     |      |
|--------------|---|-----|-----|--------|----|----------|---|-----|----|-----|-----|----|------|-----|-----|-----|-----|---|---|-----|-----|-----|-----|-----|-----|------|
| 427 Syracuse | 0 | 4   | 4   | 0 --   | -- | 20       | 0 | 3   | 0  | 2   | 17  | 0  | 0    | 10  | 0   | 0   | 0   | 1 | 0 | 3   | 0   | 0   | 0   | 0   | 36  |      |
| 428 Syracuse | 0 | 28  | 28  | 0 --   | -- | 15       | 0 | 24  | 0  | 39  | 0   | 0  | 29   | 76  | 25  | 0   | 68  | 0 | 2 | 72  | 1   | 8   | 11  | 0   | 85  | 440  |
| 429 Syracuse | 0 | 192 | 192 | 0 --   | -- | 14.58859 | 0 | 6   | 0  | 15  | 4   | 0  | 70   | 23  | 6   | 0   | 70  | 0 | 0 | 17  | 6   | 6   | 39  | 0   | 4   | 265  |
| 430 Syracuse | 0 | 137 | 137 | 0 --   | -- | 14.58859 | 0 | 6   | 0  | 8   | 2   | 0  | 51   | 0   | 4   | 2   | 251 | 0 | 0 | 10  | 0   | 2   | 61  | 0   | 90  | 487  |
| 431 Syracuse | 0 | 3   | 0   | 3 --   | -- | 14.58859 | 0 | 4   | 0  | 23  | 6   | 11 | 99   | 207 | 2   | 3   | 13  | 0 | 0 | 21  | 6   | 1   | 76  | 0   | 19  | 491  |
| 432 Syracuse | 0 | 35  | 35  | 0 --   | -- | 15       | 0 | 0   | 0  | 0   | 0   | 0  | 0    | 26  | 14  | 0   | 7   | 0 | 0 | 0   | 0   | 0   | 0   | 0   | 0   | 47   |
| 433 Syracuse | 0 | 15  | 15  | 0 --   | -- | 15       | 0 | 0   | 0  | 0   | 0   | 0  | 0    | 0   | 0   | 0   | 0   | 0 | 0 | 8   | 0   | 0   | 0   | 0   | 0   | 8    |
| 434 Syracuse | 0 | 196 | 196 | 0 --   | -- | 15       | 0 | 11  | 0  | 6   | 0   | 0  | 0    | 0   | 11  | 0   | 21  | 0 | 0 | 20  | 0   | 0   | 0   | 2   | 0   | 71   |
| 435 Syracuse | 0 | 5   | 5   | 0 --   | -- | 20       | 0 | 3   | 3  | 0   | 0   | 18 | 0    | 607 | 0   | 0   | 1   | 0 | 0 | 0   | 14  | 11  | 0   | 0   | 7   | 664  |
| 436 Syracuse | 0 | 0   | 0   | 0 --   | -- | 20       | 0 | 2   | 7  | 0   | 0   | 0  | 0    | 0   | 0   | 0   | 4   | 0 | 0 | 1   | 2   | 0   | 0   | 0   | 2   | 18   |
| 437 Syracuse | 0 | 0   | 0   | 0 --   | -- | 15       | 0 | 0   | 0  | 0   | 0   | 0  | 0    | 0   | 0   | 0   | 0   | 0 | 0 | 3   | 15  | 14  | 0   | 0   | 5   | 37   |
| 438 Syracuse | 0 | 0   | 0   | 0 --   | -- | 20       | 0 | 16  | 0  | 0   | 0   | 0  | 5    | 0   | 0   | 0   | 0   | 0 | 0 | 23  | 0   | 0   | 0   | 0   | 0   | 44   |
| 439 Syracuse | 0 | 82  | 82  | 0 --   | -- | 2.536177 | 0 | 0   | 0  | 4   | 4   | 0  | 0    | 0   | 0   | 0   | 0   | 0 | 0 | 15  | 4   | 0   | 0   | 0   | 0   | 27   |
| 440 Syracuse | 0 | 207 | 207 | 0 --   | -- | 2.536177 | 0 | 0   | 0  | 5   | 13  | 0  | 0    | 0   | 0   | 0   | 0   | 0 | 0 | 8   | 3   | 0   | 0   | 0   | 0   | 29   |
| 441 Solvay   | 0 | 110 | 110 | 0 --   | -- | 0        | 1 | 106 | 40 | 19  | 98  | 0  | 41   | 0   | 20  | 0   | 55  | 0 | 0 | 118 | 24  | 0   | 0   | 0   | 3   | 525  |
| 442 Syracuse | 0 | 512 | 455 | 57 --  | -- | 4.90632  | 0 | 33  | 0  | 0   | 50  | 0  | 0    | 0   | 0   | 0   | 17  | 0 | 0 | 48  | 44  | 114 | 5   | 0   | 50  | 361  |
| 443 Syracuse | 0 | 449 | 445 | 4 --   | -- | 7.721142 | 0 | 96  | 0  | 9   | 63  | 9  | 0    | 0   | 0   | 0   | 49  | 0 | 0 | 27  | 53  | 0   | 0   | 7   | 11  | 324  |
| 444 Camillus | 0 | 238 | 238 | 0 --   | -- | 7.235539 | 0 | 94  | 31 | 5   | 112 | 0  | 17   | 0   | 5   | 0   | 23  | 0 | 0 | 99  | 18  | 0   | 0   | 0   | 37  | 441  |
| 445 Syracuse | 0 | 0   | 0   | 0 --   | -- | 15       | 0 | 4   | 0  | 360 | 0   | 0  | 4    | 0   | 4   | 0   | 9   | 0 | 0 | 123 | 4   | 4   | 0   | 0   | 13  | 527  |
| 446 Dewitt   | 0 | 22  | 22  | 0 --   | -- | 0.332182 | 0 | 217 | 0  | 205 | 38  | 0  | 20   | 20  | 28  | 0   | 220 | 0 | 0 | 232 | 179 | 6   | 100 | 0   | 132 | 1397 |
| 447 Geddes   | 0 | 200 | 200 | 0 --   | -- | 4.241554 | 0 | 23  | 0  | 0   | 113 | 0  | 0    | 0   | 0   | 0   | 0   | 0 | 0 | 47  | 8   | 0   | 0   | 0   | 0   | 191  |
| 448 Geddes   | 0 | 144 | 137 | 7 --   | -- | 2.74395  | 0 | 0   | 0  | 0   | 0   | 0  | 0    | 0   | 0   | 0   | 0   | 0 | 0 | 29  | 0   | 0   | 0   | 0   | 0   | 29   |
| 449 Syracuse | 0 | 49  | 49  | 0 --   | -- | 7.532137 | 0 | 3   | 0  | 3   | 11  | 0  | 35   | 15  | 5   | 0   | 19  | 0 | 0 | 3   | 0   | 6   | 0   | 0   | 26  | 126  |
| 450 Manlius  | 0 | 577 | 577 | 0 --   | -- | 0.000036 | 0 | 17  | 0  | 0   | 0   | 0  | 39   | 0   | 0   | 0   | 0   | 0 | 0 | 63  | 0   | 0   | 0   | 0   | 0   | 119  |
| 451 Solvay   | 0 | 839 | 834 | 5 --   | -- | 2.675367 | 0 | 12  | 0  | 0   | 0   | 77 | 10   | 0   | 5   | 0   | 0   | 0 | 0 | 0   | 0   | 10  | 0   | 0   | 0   | 114  |
| 452 Manlius  | 0 | 673 | 673 | 0 --   | -- | 0.006161 | 0 | 0   | 0  | 59  | 5   | 0  | 2    | 0   | 11  | 0   | 0   | 0 | 5 | 21  | 5   | 19  | 0   | 0   | 0   | 127  |
| 453 Syracuse | 0 | 2   | 2   | 0 --   | -- | 15       | 0 | 122 | 0  | 0   | 0   | 0  | 29   | 0   | 0   | 0   | 0   | 0 | 0 | 27  | 6   | 0   | 14  | 22  | 0   | 220  |
| 454 Syracuse | 0 | 104 | 104 | 0 --   | -- | 20       | 0 | 320 | 44 | 32  | 77  | 0  | 298  | 420 | 156 | 0   | 58  | 0 | 0 | 59  | 47  | 31  | 0   | 0   | 0   | 1540 |
| 455 Syracuse | 0 | 6   | 6   | 0 --   | -- | 15       | 0 | 10  | 13 | 0   | 13  | 0  | 32   | 0   | 4   | 0   | 60  | 0 | 0 | 8   | 30  | 19  | 135 | 0   | 51  | 375  |
| 456 Syracuse | 0 | 3   | 3   | 0 --   | -- | 7.307918 | 0 | 1   | 0  | 10  | 0   | 0  | 0    | 0   | 4   | 0   | 5   | 0 | 0 | 9   | 18  | 9   | 0   | 0   | 18  | 74   |
| 457 Syracuse | 0 | 26  | 26  | 0 --   | -- | 7.307918 | 0 | 4   | 0  | 4   | 0   | 0  | 0    | 0   | 14  | 0   | 0   | 0 | 0 | 94  | 20  | 36  | 0   | 0   | 4   | 175  |
| 458 Syracuse | 0 | 95  | 95  | 0 --   | -- | 1.687125 | 0 | 0   | 0  | 0   | 5   | 0  | 0    | 0   | 0   | 0   | 2   | 0 | 0 | 0   | 0   | 3   | 0   | 0   | 0   | 10   |
| 459 Syracuse | 0 | 277 | 277 | 0 --   | -- | 1.687125 | 0 | 0   | 0  | 0   | 27  | 0  | 60   | 0   | 19  | 0   | 14  | 0 | 0 | 0   | 0   | 13  | 0   | 0   | 14  | 147  |
| 460 Syracuse | 0 | 176 | 176 | 0 --   | -- | 15       | 0 | 129 | 7  | 13  | 42  | 10 | 10   | 14  | 74  | 0   | 45  | 0 | 0 | 0   | 47  | 33  | 5   | 0   | 0   | 427  |
| 461 Syracuse | 0 | 0   | 0   | 0 --   | -- | 15       | 0 | 63  | 0  | 0   | 0   | 0  | 1998 | 0   | 0   | 0   | 0   | 0 | 0 | 0   | 0   | 0   | 0   | 619 | 0   | 2680 |
| 462 Syracuse | 0 | 0   | 0   | 0 --   | -- | 15       | 0 | 0   | 0  | 0   | 0   | 0  | 0    | 0   | 0   | 0   | 197 | 0 | 0 | 0   | 27  | 0   | 0   | 0   | 0   | 224  |
| 463 Syracuse | 0 | 0   | 0   | 0 --   | -- | 20       | 0 | 48  | 0  | 0   | 0   | 0  | 0    | 319 | 0   | 0   | 0   | 0 | 0 | 0   | 0   | 0   | 0   | 0   | 0   | 367  |
| 464 Syracuse | 0 | 34  | 34  | 0 --   | -- | 15       | 0 | 78  | 0  | 0   | 0   | 0  | 160  | 286 | 0   | 0   | 0   | 0 | 0 | 8   | 26  | 9   | 2   | 26  | 78  | 673  |
| 465 Syracuse | 0 | 8   | 8   | 0 --   | -- | 9.117903 | 0 | 1   | 0  | 49  | 0   | 0  | 0    | 0   | 0   | 0   | 18  | 0 | 0 | 5   | 6   | 0   | 0   | 0   | 6   | 85   |
| 466 Syracuse | 0 | 199 | 199 | 0 --   | -- | 15       | 4 | 149 | 45 | 21  | 31  | 4  | 15   | 0   | 107 | 4   | 12  | 0 | 0 | 16  | 74  | 29  | 0   | 0   | 24  | 535  |
| 467 Syracuse | 0 | 0   | 0   | 0 --   | -- | 15       | 0 | 5   | 0  | 0   | 0   | 0  | 0    | 0   | 0   | 198 | 0   | 0 | 0 | 0   | 0   | 45  | 0   | 0   | 0   | 248  |
| 468 Syracuse | 0 | 155 | 155 | 0 --   | -- | 15       | 0 | 6   | 0  | 3   | 0   | 0  | 0    | 0   | 0   | 13  | 12  | 0 | 0 | 3   | 27  | 0   | 0   | 0   | 0   | 64   |
| 469 Syracuse | 0 | 128 | 128 | 0 --   | -- | 15       | 0 | 7   | 0  | 2   | 2   | 0  | 2    | 0   | 2   | 0   | 6   | 0 | 0 | 0   | 2   | 32  | 0   | 0   | 0   | 55   |
| 470 Syracuse | 0 | 193 | 185 | 8 --   | -- | 15       | 0 | 14  | 0  | 2   | 0   | 0  | 11   | 0   | 1   | 0   | 10  | 0 | 0 | 4   | 2   | 0   | 0   | 0   | 0   | 44   |
| 471 Syracuse | 0 | 189 | 189 | 0 --   | -- | 15       | 0 | 7   | 0  | 6   | 15  | 44 | 10   | 0   | 0   | 0   | 57  | 0 | 6 | 17  | 7   | 0   | 2   | 0   | 5   | 176  |
| 472 Syracuse | 0 | 306 | 306 | 0 --   | -- | 15       | 0 | 6   | 0  | 0   | 14  | 83 | 0    | 0   | 0   | 0   | 0   | 0 | 8 | 25  | 12  | 0   | 3   | 0   | 0   | 151  |
| 473 Dewitt   | 0 | 465 | 313 | 152 -- | -- | 2.569431 | 0 | 8   | 0  | 0   | 0   | 0  | 0    | 0   | 0   | 0   | 0   | 0 | 0 | 0   | 0   | 0   | 0   | 0   | 3   | 11   |
| 474 Dewitt   | 0 | 364 | 364 | 0 --   | -- | 2.569431 | 0 | 87  |    |     |     |    |      |     |     |     |     |   |   |     |     |     |     |     |     |      |



|                 |   |     |     |        |    |          |   |     |     |     |     |     |     |     |     |    |     |   |    |     |     |    |     |    |     |      |
|-----------------|---|-----|-----|--------|----|----------|---|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|---|----|-----|-----|----|-----|----|-----|------|
| 488 Elbridge    | 0 | 324 | 320 | 4 --   | -- | 3.376906 | 2 | 7   | 0   | 25  | 55  | 140 | 18  | 0   | 25  | 0  | 0   | 0 | 7  | 62  | 5   | 0  | 0   | 0  | 20  | 366  |
| 489 Syracuse    | 0 | 113 | 113 | 0 --   | -- | 15       | 0 | 123 | 0   | 11  | 89  | 44  | 69  | 0   | 0   | 0  | 34  | 0 | 9  | 68  | 9   | 0  | 23  | 0  | 0   | 478  |
| 490 Syracuse    | 0 | 329 | 329 | 0 --   | -- | 14.17692 | 3 | 63  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0   | 0 | 20 | 0   | 12  | 0  | 0   | 0  | 98  |      |
| 491 Syracuse    | 0 | 425 | 400 | 25 --  | -- | 15       | 0 | 72  | 0   | 6   | 17  | 0   | 6   | 0   | 233 | 0  | 0   | 0 | 0  | 7   | 12  | 0  | 0   | 0  | 0   | 352  |
| 492 Syracuse    | 0 | 340 | 331 | 9 --   | -- | 15       | 0 | 53  | 0   | 0   | 13  | 0   | 37  | 0   | 180 | 0  | 0   | 0 | 0  | 15  | 11  | 0  | 0   | 0  | 0   | 309  |
| 493 Syracuse    | 0 | 0   | 0   | 0 --   | -- | 4.748782 | 0 | 224 | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0   | 0 | 0  | 0   | 0   | 0  | 0   | 0  | 0   | 224  |
| 494 Syracuse    | 0 | 150 | 150 | 0 --   | -- | 0        | 2 | 99  | 735 | 74  | 11  | 0   | 327 | 8   | 0   | 0  | 34  | 0 | 54 | 33  | 27  | 6  | 240 | 78 | 45  | 1773 |
| 495 Syracuse    | 0 | 29  | 29  | 0 --   | -- | 0        | 0 | 0   | 56  | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0   | 0 | 1  | 0   | 2   | 0  | 0   | 0  | 8   | 67   |
| 496 Syracuse    | 0 | 287 | 287 | 0 --   | -- | 2.288757 | 0 | 3   | 5   | 24  | 76  | 49  | 4   | 44  | 0   | 0  | 88  | 0 | 0  | 10  | 25  | 0  | 0   | 0  | 47  | 375  |
| 497 Syracuse    | 0 | 145 | 144 | 1 --   | -- | 2.288757 | 0 | 4   | 2   | 0   | 0   | 0   | 0   | 14  | 0   | 0  | 27  | 0 | 0  | 2   | 0   | 45 | 0   | 0  | 0   | 94   |
| 498 Syracuse    | 0 | 223 | 223 | 0 --   | -- | 7.087175 | 0 | 153 | 165 | 0   | 29  | 0   | 71  | 0   | 537 | 0  | 0   | 0 | 0  | 9   | 6   | 8  | 0   | 0  | 0   | 978  |
| 499 Syracuse    | 0 | 176 | 176 | 0 --   | -- | 7.087175 | 0 | 38  | 321 | 25  | 9   | 20  | 30  | 0   | 104 | 0  | 0   | 0 | 0  | 16  | 46  | 15 | 0   | 0  | 0   | 625  |
| 500 Syracuse    | 0 | 586 | 582 | 4 --   | -- | 2.782117 | 2 | 41  | 9   | 30  | 81  | 0   | 2   | 0   | 8   | 0  | 8   | 0 | 0  | 99  | 177 | 0  | 0   | 0  | 91  | 547  |
| 501 Syracuse    | 0 | 0   | 0   | 0 --   | -- | 2.782117 | 0 | 15  | 3   | 0   | 287 | 0   | 15  | 0   | 218 | 0  | 0   | 0 | 0  | 532 | 4   | 0  | 0   | 0  | 17  | 1092 |
| 502 Solvay      | 0 | 634 | 634 | 0 --   | -- | 0.488924 | 8 | 10  | 0   | 6   | 28  | 0   | 4   | 33  | 0   | 0  | 42  | 0 | 0  | 14  | 9   | 0  | 0   | 0  | 84  | 238  |
| 503 Syracuse    | 0 | 45  | 45  | 0 --   | -- | 15       | 0 | 14  | 0   | 0   | 21  | 0   | 52  | 0   | 0   | 0  | 0   | 0 | 0  | 26  | 29  | 0  | 0   | 0  | 0   | 142  |
| 504 Syracuse    | 0 | 339 | 290 | 49 --  | -- | 15       | 0 | 7   | 0   | 3   | 67  | 123 | 0   | 0   | 7   | 0  | 0   | 0 | 0  | 38  | 13  | 0  | 0   | 0  | 0   | 258  |
| 505 Solvay      | 0 | 744 | 743 | 1 --   | -- | 0.482925 | 0 | 25  | 6   | 0   | 19  | 268 | 9   | 0   | 0   | 0  | 0   | 0 | 0  | 50  | 28  | 0  | 0   | 0  | 0   | 405  |
| 506 Camillus    | 0 | 183 | 183 | 0 --   | -- | 2.390576 | 0 | 0   | 0   | 0   | 0   | 0   | 29  | 10  | 18  | 0  | 0   | 0 | 0  | 0   | 0   | 0  | 0   | 0  | 0   | 57   |
| 507 Syracuse    | 0 | 0   | 0   | 0 --   | -- | 0.628943 | 0 | 7   | 0   | 72  | 0   | 0   | 0   | 0   | 0   | 0  | 0   | 0 | 0  | 73  | 15  | 0  | 53  | 0  | 0   | 220  |
| 508 Syracuse    | 0 | 228 | 228 | 0 --   | -- | 13.11086 | 4 | 46  | 0   | 94  | 150 | 0   | 0   | 0   | 0   | 0  | 126 | 0 | 0  | 187 | 46  | 0  | 13  | 0  | 78  | 743  |
| 509 Syracuse    | 0 | 40  | 40  | 0 --   | -- | 0.670655 | 0 | 10  | 0   | 162 | 0   | 0   | 0   | 17  | 0   | 0  | 20  | 0 | 0  | 29  | 25  | 0  | 9   | 0  | 41  | 313  |
| 510 Syracuse    | 0 | 436 | 339 | 97 --  | -- | 6.352946 | 2 | 49  | 0   | 0   | 0   | 62  | 218 | 65  | 72  | 0  | 4   | 0 | 0  | 0   | 30  | 32 | 0   | 0  | 0   | 534  |
| 511 Syracuse    | 0 | 111 | 111 | 0 --   | -- | 6.352946 | 0 | 103 | 0   | 0   | 0   | 0   | 41  | 0   | 11  | 0  | 0   | 0 | 0  | 0   | 16  | 49 | 0   | 0  | 0   | 220  |
| 512 Syracuse    | 0 | 365 | 365 | 0 --   | -- | 3.546869 | 0 | 15  | 9   | 11  | 10  | 151 | 0   | 0   | 0   | 0  | 243 | 0 | 0  | 9   | 0   | 0  | 0   | 0  | 19  | 467  |
| 513 East Syracu | 0 | 14  | 14  | 0 --   | -- | 4.514478 | 0 | 174 | 0   | 25  | 68  | 178 | 31  | 0   | 73  | 0  | 18  | 0 | 0  | 332 | 83  | 22 | 35  | 0  | 65  | 1105 |
| 514 Syracuse    | 0 | 568 | 568 | 0 --   | -- | 3.967118 | 0 | 4   | 0   | 0   | 3   | 11  | 12  | 0   | 0   | 0  | 0   | 0 | 0  | 2   | 5   | 0  | 0   | 0  | 0   | 37   |
| 515 Syracuse    | 0 | 103 | 103 | 0 --   | -- | 14.35493 | 0 | 57  | 0   | 6   | 0   | 0   | 14  | 0   | 4   | 0  | 0   | 0 | 10 | 65  | 9   | 60 | 6   | 0  | 22  | 253  |
| 516 Solvay      | 0 | 0   | 0   | 0 --   | -- | 2.838104 | 1 | 36  | 0   | 7   | 0   | 0   | 4   | 0   | 1   | 0  | 477 | 0 | 0  | 3   | 11  | 0  | 1   | 83 | 3   | 627  |
| 517 Solvay      | 0 | 481 | 481 | 0 --   | -- | 2.838104 | 0 | 19  | 0   | 10  | 8   | 8   | 158 | 300 | 14  | 0  | 0   | 0 | 0  | 0   | 14  | 6  | 0   | 0  | 19  | 555  |
| 518 Syracuse    | 0 | 0   | 0   | 0 --   | -- | 0.262022 | 0 | 13  | 0   | 11  | 0   | 0   | 0   | 0   | 0   | 0  | 100 | 0 | 0  | 21  | 19  | 0  | 149 | 0  | 53  | 366  |
| 519 East Syracu | 0 | 85  | 85  | 0 --   | -- | 10.78222 | 4 | 0   | 0   | 246 | 0   | 0   | 0   | 0   | 0   | 0  | 23  | 0 | 7  | 7   | 3   | 0  | 13  | 0  | 19  | 322  |
| 520 Syracuse    | 0 | 398 | 398 | 0 --   | -- | 4.34803  | 1 | 54  | 0   | 12  | 52  | 0   | 3   | 0   | 3   | 0  | 4   | 0 | 0  | 65  | 43  | 9  | 0   | 0  | 26  | 272  |
| 521 Dewitt      | 0 | 0   | 0   | 0 --   | -- | 1.990188 | 0 | 0   | 0   | 0   | 58  | 0   | 0   | 0   | 0   | 0  | 55  | 0 | 0  | 95  | 14  | 0  | 65  | 0  | 120 | 407  |
| 522 Syracuse    | 0 | 410 | 307 | 103 -- | -- | 14.07796 | 0 | 5   | 0   | 11  | 44  | 25  | 0   | 13  | 33  | 0  | 0   | 0 | 0  | 103 | 15  | 0  | 0   | 0  | 36  | 285  |
| 523 Syracuse    | 0 | 334 | 334 | 0 --   | -- | 2.276632 | 0 | 2   | 0   | 0   | 0   | 0   | 5   | 0   | 4   | 0  | 0   | 0 | 0  | 24  | 0   | 0  | 0   | 0  | 2   | 37   |
| 524 Syracuse    | 0 | 617 | 608 | 9 --   | -- | 3.705318 | 0 | 8   | 0   | 0   | 41  | 0   | 0   | 0   | 0   | 0  | 0   | 0 | 0  | 0   | 0   | 67 | 0   | 0  | 0   | 116  |
| 525 Syracuse    | 0 | 485 | 485 | 0 --   | -- | 5.150197 | 0 | 4   | 0   | 0   | 0   | 253 | 6   | 0   | 0   | 0  | 0   | 0 | 0  | 6   | 0   | 0  | 0   | 0  | 0   | 269  |
| 1114 Camillus   | 0 | 223 | 223 | 0 --   | -- | 0        | 0 | 0   | 0   | 0   | 154 | 0   | 6   | 0   | 17  | 27 | 0   | 0 | 0  | 183 | 0   | 0  | 0   | 0  | 0   | 386  |
| 1113 Camillus   | 0 | 160 | 160 | 0 --   | -- | 0        | 0 | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0   | 0 | 0  | 0   | 0   | 0  | 0   | 0  | 0   | 0    |
| 527 Syracuse    | 0 | 395 | 395 | 0 --   | -- | 12.60583 | 0 | 0   | 0   | 0   | 27  | 98  | 4   | 0   | 0   | 0  | 7   | 0 | 0  | 12  | 7   | 7  | 0   | 0  | 7   | 169  |
| 528 Syracuse    | 0 | 481 | 481 | 0 --   | -- | 2.235939 | 0 | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0   | 0 | 0  | 0   | 0   | 0  | 0   | 0  | 0   | 0    |
| 529 Syracuse    | 0 | 261 | 261 | 0 --   | -- | 0.087182 | 0 | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0   | 0 | 0  | 0   | 0   | 4  | 0   | 0  | 0   | 4    |
| 530 Syracuse    | 0 | 0   | 0   | 0 --   | -- | 0.234723 | 0 | 0   | 0   | 0   | 0   | 0   | 0   | 46  | 0   | 0  | 0   | 0 | 0  | 0   | 5   | 0  | 0   | 0  | 0   | 51   |
| 531 Syracuse    | 0 | 1   | 0   | 1 --   | -- | 0.098596 | 0 | 4   | 0   | 2   | 7   | 0   | 12  | 6   | 0   | 0  | 78  | 0 | 0  | 12  | 2   | 0  | 30  | 12 | 13  | 178  |
| 532 Syracuse    | 0 | 438 | 438 | 0 --   | -- | 5.82436  | 0 | 6   | 0   | 0   | 11  | 0   | 0   | 0   | 0   | 0  |     |   |    |     |     |    |     |    |     |      |



|                   |   |     |     |       |    |          |   |     |    |     |     |     |     |    |    |    |     |    |     |     |     |    |     |    |     |     |
|-------------------|---|-----|-----|-------|----|----------|---|-----|----|-----|-----|-----|-----|----|----|----|-----|----|-----|-----|-----|----|-----|----|-----|-----|
| 548 East Syracuse | 0 | 318 | 318 | 0 --  | -- | 3.157316 | 1 | 56  | 0  | 44  | 11  | 7   | 1   | 0  | 9  | 2  | 99  | 0  | 0   | 7   | 70  | 4  | 2   | 3  | 17  | 333 |
| 549 East Syracuse | 0 | 442 | 440 | 2 --  | -- | 3.157316 | 1 | 35  | 12 | 30  | 11  | 101 | 14  | 54 | 47 | 2  | 7   | 0  | 0   | 25  | 21  | 12 | 1   | 1  | 2   | 376 |
| 550 Geddes        | 0 | 110 | 110 | 0 --  | -- | 2.865304 | 0 | 0   | 0  | 10  | 4   | 0   | 0   | 0  | 0  | 0  | 159 | 0  | 79  | 28  | 4   | 0  | 0   | 5  | 38  | 327 |
| 551 Syracuse      | 0 | 201 | 201 | 0 --  | -- | 6.808968 | 0 | 66  | 0  | 89  | 0   | 0   | 0   | 0  | 0  | 0  | 0   | 0  | 0   | 57  | 0   | 0  | 0   | 0  | 52  | 264 |
| 552 Syracuse      | 0 | 309 | 309 | 0 --  | -- | 9.878653 | 0 | 0   | 0  | 0   | 0   | 0   | 0   | 0  | 0  | 0  | 0   | 0  | 0   | 1   | 1   | 0  | 0   | 0  | 3   | 5   |
| 553 Syracuse      | 0 | 364 | 330 | 34 -- | -- | 0.018533 | 0 | 68  | 0  | 9   | 9   | 26  | 89  | 0  | 94 | 0  | 4   | 0  | 0   | 14  | 34  | 28 | 0   | 0  | 4   | 379 |
| 554 Syracuse      | 0 | 444 | 440 | 4 --  | -- | 6.594307 | 0 | 0   | 0  | 7   | 7   | 9   | 0   | 0  | 0  | 0  | 0   | 0  | 0   | 1   | 6   | 32 | 0   | 0  | 13  | 75  |
| 555 Camillus      | 0 | 358 | 350 | 8 --  | -- | 2.382616 | 0 | 0   | 0  | 5   | 109 | 0   | 0   | 0  | 0  | 0  | 0   | 0  | 0   | 3   | 7   | 0  | 70  | 0  | 0   | 194 |
| 556 Camillus      | 0 | 312 | 312 | 0 --  | -- | 0.001992 | 1 | 5   | 0  | 0   | 0   | 0   | 0   | 8  | 0  | 0  | 7   | 0  | 0   | 0   | 2   | 0  | 2   | 0  | 0   | 25  |
| 557 Camillus      | 0 | 146 | 146 | 0 --  | -- | 0.001992 | 0 | 0   | 0  | 0   | 0   | 284 | 0   | 0  | 0  | 0  | 0   | 0  | 0   | 5   | 16  | 12 | 0   | 0  | 0   | 317 |
| 558 Syracuse      | 0 | 414 | 414 | 0 --  | -- | 0.937122 | 0 | 0   | 0  | 0   | 0   | 0   | 0   | 0  | 0  | 0  | 0   | 0  | 0   | 0   | 0   | 0  | 0   | 0  | 16  | 16  |
| 559 Geddes        | 0 | 0   | 0   | 0 --  | -- | 0        | 0 | 63  | 0  | 0   | 16  | 0   | 0   | 0  | 0  | 0  | 93  | 0  | 0   | 0   | 10  | 0  | 0   | 0  | 524 | 706 |
| 560 Manlius       | 0 | 148 | 148 | 0 --  | -- | 0.001344 | 5 | 0   | 0  | 83  | 0   | 0   | 0   | 0  | 0  | 0  | 0   | 0  | 0   | 2   | 44  | 0  | 0   | 0  | 0   | 134 |
| 561 Syracuse      | 0 | 385 | 385 | 0 --  | -- | 7.008668 | 0 | 0   | 0  | 6   | 12  | 0   | 0   | 0  | 0  | 0  | 0   | 0  | 0   | 0   | 0   | 0  | 0   | 0  | 3   | 21  |
| 562 Manlius       | 0 | 335 | 335 | 0 --  | -- | 0.035299 | 0 | 0   | 0  | 0   | 0   | 0   | 0   | 0  | 0  | 0  | 0   | 0  | 0   | 49  | 0   | 0  | 0   | 0  | 0   | 49  |
| 563 Syracuse      | 0 | 656 | 656 | 0 --  | -- | 4.993106 | 3 | 15  | 0  | 0   | 33  | 0   | 0   | 0  | 0  | 0  | 11  | 0  | 2   | 7   | 10  | 0  | 0   | 0  | 0   | 81  |
| 564 Syracuse      | 0 | 253 | 253 | 0 --  | -- | 5.831994 | 0 | 8   | 0  | 32  | 41  | 0   | 0   | 0  | 0  | 0  | 27  | 0  | 15  | 16  | 36  | 0  | 0   | 0  | 53  | 230 |
| 565 Syracuse      | 0 | 311 | 311 | 0 --  | -- | 0.820069 | 0 | 0   | 0  | 0   | 0   | 100 | 0   | 0  | 0  | 0  | 0   | 0  | 0   | 0   | 0   | 9  | 0   | 0  | 0   | 109 |
| 566 Syracuse      | 0 | 270 | 270 | 0 --  | -- | 0.716666 | 0 | 35  | 0  | 0   | 0   | 0   | 0   | 0  | 23 | 0  | 0   | 0  | 0   | 18  | 0   | 0  | 0   | 0  | 0   | 76  |
| 567 Syracuse      | 0 | 334 | 334 | 0 --  | -- | 2.336335 | 0 | 0   | 0  | 0   | 0   | 0   | 0   | 0  | 25 | 0  | 0   | 0  | 0   | 0   | 0   | 0  | 0   | 0  | 0   | 25  |
| 568 Elbridge      | 0 | 77  | 77  | 0 --  | -- | 2.746383 | 0 | 0   | 0  | 3   | 0   | 5   | 0   | 0  | 0  | 0  | 0   | 0  | 0   | 0   | 1   | 0  | 0   | 0  | 0   | 9   |
| 569 Elbridge      | 0 | 205 | 205 | 0 --  | -- | 2.746383 | 0 | 3   | 0  | 0   | 13  | 162 | 0   | 40 | 0  | 0  | 72  | 0  | 7   | 5   | 0   | 3  | 0   | 0  | 3   | 308 |
| 570 Syracuse      | 0 | 610 | 610 | 0 --  | -- | 6.906892 | 3 | 33  | 5  | 0   | 96  | 0   | 230 | 0  | 3  | 0  | 8   | 0  | 0   | 55  | 17  | 0  | 0   | 0  | 0   | 449 |
| 571 Syracuse      | 0 | 543 | 543 | 0 --  | -- | 3.311332 | 0 | 110 | 0  | 0   | 11  | 0   | 505 | 0  | 32 | 0  | 24  | 0  | 0   | 34  | 0   | 20 | 32  | 0  | 7   | 776 |
| 572 Syracuse      | 0 | 619 | 610 | 9 --  | -- | 4.044306 | 0 | 0   | 0  | 0   | 0   | 0   | 0   | 0  | 0  | 0  | 0   | 0  | 126 | 0   | 0   | 0  | 0   | 0  | 0   | 126 |
| 573 Dewitt        | 0 | 316 | 307 | 9 --  | -- | 0.059642 | 0 | 0   | 0  | 0   | 0   | 0   | 0   | 0  | 0  | 0  | 0   | 0  | 0   | 0   | 0   | 5  | 0   | 0  | 0   | 5   |
| 574 Syracuse      | 0 | 426 | 412 | 14 -- | -- | 7.56005  | 0 | 13  | 11 | 0   | 19  | 33  | 13  | 0  | 11 | 0  | 62  | 0  | 0   | 39  | 103 | 11 | 0   | 0  | 72  | 387 |
| 575 Syracuse      | 0 | 404 | 397 | 7 --  | -- | 5.866611 | 0 | 19  | 0  | 0   | 12  | 0   | 0   | 0  | 0  | 0  | 0   | 0  | 0   | 0   | 0   | 0  | 0   | 0  | 39  | 70  |
| 576 Dewitt        | 0 | 333 | 333 | 0 --  | -- | 1.055264 | 0 | 0   | 43 | 0   | 38  | 62  | 0   | 0  | 0  | 0  | 7   | 0  | 0   | 276 | 0   | 0  | 8   | 0  | 28  | 461 |
| 577 Syracuse      | 0 | 126 | 126 | 0 --  | -- | 0.417778 | 0 | 0   | 0  | 0   | 30  | 0   | 0   | 0  | 0  | 0  | 3   | 0  | 0   | 7   | 0   | 0  | 0   | 0  | 0   | 40  |
| 578 Syracuse      | 0 | 107 | 107 | 0 --  | -- | 0.417778 | 0 | 0   | 0  | 0   | 0   | 0   | 0   | 0  | 0  | 0  | 11  | 0  | 0   | 19  | 0   | 0  | 0   | 0  | 0   | 30  |
| 579 Syracuse      | 0 | 511 | 511 | 0 --  | -- | 10.61973 | 0 | 0   | 0  | 56  | 0   | 0   | 0   | 0  | 0  | 0  | 0   | 0  | 0   | 0   | 0   | 0  | 0   | 0  | 0   | 56  |
| 580 Syracuse      | 0 | 0   | 0   | 0 --  | -- | 0        | 0 | 53  | 0  | 0   | 33  | 5   | 0   | 0  | 0  | 0  | 23  | 0  | 0   | 21  | 36  | 0  | 204 | 0  | 0   | 375 |
| 581 Syracuse      | 0 | 2   | 0   | 2 --  | -- | 0        | 0 | 54  | 0  | 18  | 0   | 13  | 0   | 27 | 0  | 0  | 0   | 0  | 0   | 36  | 9   | 0  | 34  | 0  | 39  | 230 |
| 582 Syracuse      | 0 | 120 | 120 | 0 --  | -- | 2.590051 | 0 | 4   | 0  | 28  | 14  | 0   | 0   | 0  | 2  | 0  | 0   | 0  | 0   | 5   | 2   | 0  | 0   | 2  | 0   | 57  |
| 583 Syracuse      | 0 | 162 | 162 | 0 --  | -- | 2.590051 | 0 | 0   | 0  | 6   | 0   | 0   | 0   | 0  | 0  | 0  | 0   | 0  | 0   | 0   | 0   | 0  | 0   | 0  | 0   | 6   |
| 584 Syracuse      | 0 | 446 | 368 | 78 -- | -- | 1.477204 | 0 | 9   | 0  | 35  | 17  | 200 | 0   | 0  | 0  | 0  | 0   | 0  | 13  | 40  | 30  | 0  | 0   | 0  | 0   | 345 |
| 585 Dewitt        | 0 | 1   | 1   | 0 --  | -- | 3.840352 | 2 | 87  | 8  | 52  | 0   | 128 | 12  | 0  | 13 | 0  | 207 | 0  | 0   | 47  | 17  | 0  | 32  | 0  | 124 | 729 |
| 586 Dewitt        | 0 | 2   | 2   | 0 --  | -- | 3.840352 | 0 | 86  | 0  | 6   | 77  | 0   | 0   | 0  | 16 | 22 | 86  | 0  | 0   | 14  | 32  | 36 | 208 | 0  | 32  | 615 |
| 587 Syracuse      | 0 | 46  | 42  | 4 --  | -- | 2.600652 | 0 | 0   | 0  | 0   | 0   | 61  | 0   | 0  | 0  | 0  | 0   | 0  | 0   | 0   | 0   | 0  | 0   | 0  | 0   | 61  |
| 588 Syracuse      | 0 | 81  | 81  | 0 --  | -- | 2.600652 | 0 | 14  | 0  | 0   | 0   | 0   | 0   | 0  | 0  | 0  | 14  | 0  | 0   | 12  | 0   | 0  | 0   | 0  | 14  | 54  |
| 589 Syracuse      | 0 | 53  | 53  | 0 --  | -- | 2.25424  | 0 | 1   | 0  | 0   | 14  | 0   | 0   | 0  | 0  | 0  | 12  | 0  | 0   | 7   | 3   | 0  | 12  | 0  | 16  | 65  |
| 590 Syracuse      | 0 | 259 | 256 | 3 --  | -- | 2.25424  | 0 | 0   | 0  | 0   | 0   | 0   | 0   | 0  | 0  | 0  | 0   | 0  | 0   | 0   | 0   | 0  | 0   | 0  | 0   | 0   |
| 591 Syracuse      | 0 | 271 | 271 | 0 --  | -- | 3.359099 | 0 | 0   | 0  | 0   | 0   | 0   | 15  | 0  | 0  | 0  | 0   | 0  | 0   | 0   | 0   | 0  | 0   | 0  | 0   | 15  |
| 592 Salina        | 0 | 693 | 690 | 3 --  | -- | 4.098106 | 3 | 66  | 10 | 89  | 99  | 0   | 31  | 0  | 0  | 0  | 82  | 0  | 5   | 164 | 18  | 0  | 81  | 83 | 46  | 777 |
| 593 Dewitt        | 0 | 476 | 476 | 0 --  | -- | 0.937337 | 0 | 142 | 0  | 18  | 45  | 0   | 0   | 0  | 8  | 0  | 0   | 0  | 0   | 53  | 0   | 0  | 60  | 0  | 151 | 476 |
| 594 Dewitt        | 0 | 380 | 373 | 7 --  | -- | 0.937337 | 0 | 7   | 0  | 0   | 0   | 0   | 58  | 0  | 67 | 0  | 0   | 0  | 0   | 9   | 22  | 0  | 0   | 0  | 0   | 163 |
| 595 Minoa         | 0 | 660 | 660 | 0 --  | -- | 1.966243 | 0 | 24  | 0  | 0   | 20  | 28  | 0   | 57 | 0  | 0  | 0   | 0  | 0   | 30  | 0   | 0  | 0   | 0  | 59  | 218 |
| 596 Dewitt        | 0 | 197 | 197 | 0 --  | -- | 9.055964 | 1 | 122 | 0  | 120 | 10  | 0   | 0   | 0  | 0  | 0  | 215 | 51 | 0   | 46  | 6   | 0  | 57  | 0  | 80  | 708 |
| 597 Syracuse      | 0 | 94  | 94  | 0 --  | -- | 2.333923 | 0 | 0   | 0  | 0   | 10  | 0   | 0   | 0  | 0  | 0  | 0   | 0  | 0   | 0   | 0   | 0  | 0   | 0  | 0   | 10  |
| 598 Syracuse      | 0 | 101 | 101 | 0 --  | -- | 2.333923 | 0 | 6   | 0  | 6   | 10  | 0   | 0   | 0  | 0  | 9  | 43  | 0  | 0   | 6   | 7   | 0  | 0   | 0  | 6   | 93  |
| 599 Dewitt        | 0 | 74  | 74  | 0 --  | -- | 4.546257 | 0 | 10  | 0  | 7   | 0   | 0   | 0   | 0  | 0  | 0  | 192 | 0  | 0   | 55  | 10  | 0  | 22  | 0  | 11  | 307 |
| 600 Syracuse      | 0 | 328 | 328 | 0 --  | -- | 2.480896 | 0 | 0   | 0  | 0   | 0   | 0   | 0   | 0  | 0  | 0  | 0   | 0  | 0   | 0   | 0   | 0  | 0   | 0  | 0   | 0   |
| 601 Syracuse      | 0 | 238 | 232 | 6 --  | -- | 2.480896 | 0 | 0   | 0  | 6   | 0   | 0   | 0   | 0  | 0  | 0  | 5   | 0  | 0   | 0   | 0   | 5  | 12  | 0  | 0   | 28  |
| 602 Syracuse      | 0 | 88  | 88  | 0 --  | -- | 0.373282 | 0 | 0   | 0  | 0   | 0   | 0   | 0   | 0  | 0  | 0  | 0   | 0  | 0   | 0   | 0   | 0  | 0   | 0  | 0   | 0   |
| 603 Syracuse      | 0 | 253 | 245 | 8 --  | -- | 0.373282 | 0 | 335 | 0  | 0   | 0   | 0   | 0   | 13 | 0  | 0  | 0   | 0  | 0   | 10  | 0   | 0  | 0   | 0  | 0   | 358 |
| 604 Syracuse      | 0 | 309 | 299 | 10 -- | -- | 10.27257 | 0 | 5   | 0  | 0   | 5   | 78  | 0   | 0  | 0  | 0  | 0   | 0  | 2   | 0   | 9   | 0  | 0   | 0  | 0   | 99  |
| 605 Salina        | 0 | 93  | 93  | 0 --  | -- | 10.27257 | 0 | 67  | 0  | 0   | 0   | 0   | 20  | 0  | 0  | 0  | 47  | 0  | 0   | 11  | 43  | 0  | 0   | 7  | 0   | 195 |
| 606 Salina        | 0 | 572 | 572 | 0 --  | -- | 3.203025 | 0 | 15  | 0  | 0   | 15  | 0   | 71  | 0  | 62 | 0  | 0   | 0  | 39  | 23  | 7   | 0  | 0   | 0  | 0   | 232 |
| 607 Dewitt        | 0 | 52  | 52  | 0 --  | -- | 4.37849  | 1 | 71  | 34 | 0   | 20  | 0   | 0   | 0  | 4  | 0  | 564 | 0  | 0   | 32  | 4   | 0  | 0   | 0  | 0   | 730 |
| 608 Salina        | 0 | 0   | 0   | 0 --  | -- | 1.053001 | 0 | 0   | 0  | 0   | 0   | 0   | 0   | 0  | 0  | 0  | 21  | 0  | 0   | 0   | 0   | 0  | 0   | 0  | 41  | 62  |



|               |   |     |     |       |    |          |    |     |     |     |     |     |     |     |     |     |      |    |     |     |     |    |     |   |      |     |
|---------------|---|-----|-----|-------|----|----------|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|----|-----|-----|-----|----|-----|---|------|-----|
| 609 Salina    | 0 | 3   | 3   | 0 --  | -- | 1.053001 | 0  | 49  | 0   | 55  | 32  | 0   | 0   | 49  | 0   | 0   | 39   | 0  | 0   | 236 | 106 | 0  | 0   | 0 | 51   | 617 |
| 610 Dewitt    | 0 | 3   | 3   | 0 --  | -- | 1.13625  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 29   | 0  | 0   | 0   | 0   | 0  | 40  | 0 | 69   |     |
| 611 Dewitt    | 0 | 43  | 43  | 0 --  | -- | 1.13625  | 0  | 4   | 1   | 1   | 2   | 5   | 2   | 1   | 4   | 1   | 2    | 0  | 0   | 2   | 1   | 0  | 2   | 0 | 1    | 29  |
| 612 Camillus  | 0 | 101 | 95  | 6 --  | -- | 0.196501 | 7  | 0   | 0   | 0   | 0   | 0   | 9   | 0   | 23  | 0   | 0    | 0  | 0   | 0   | 10  | 0  | 0   | 0 | 49   |     |
| 613 Camillus  | 0 | 55  | 55  | 0 --  | -- | 0.196501 | 6  | 0   | 0   | 0   | 0   | 0   | 0   | 159 | 0   | 0   | 0    | 0  | 0   | 0   | 13  | 0  | 0   | 0 | 178  |     |
| 614 Camillus  | 0 | 172 | 172 | 0 --  | -- | 0.196501 | 8  | 22  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 0  | 0   | 0   | 18  | 0  | 0   | 0 | 48   |     |
| 615 Camillus  | 0 | 351 | 351 | 0 --  | -- | 0.196501 | 0  | 8   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 0  | 0   | 0   | 20  | 0  | 0   | 0 | 28   |     |
| 616 Dewitt    | 0 | 653 | 653 | 0 --  | -- | 1.199572 | 0  | 0   | 0   | 0   | 0   | 0   | 10  | 0   | 0   | 0   | 0    | 0  | 0   | 0   | 0   | 0  | 0   | 0 | 10   |     |
| 617 Van Buren | 0 | 19  | 19  | 0 --  | -- | 5.394978 | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 0  | 0   | 1   | 0   | 0  | 6   | 3 | 570  |     |
| 618 Van Buren | 0 | 67  | 67  | 0 --  | -- | 5.394978 | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 0  | 0   | 18  | 0   | 0  | 0   | 0 | 18   |     |
| 619 Salina    | 0 | 59  | 59  | 0 --  | -- | 7.2209   | 0  | 4   | 0   | 57  | 0   | 0   | 0   | 15  | 0   | 0   | 11   | 0  | 0   | 24  | 2   | 0  | 0   | 0 | 25   |     |
| 620 Salina    | 0 | 0   | 0   | 0 --  | -- | 3.313916 | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 585  | 0  | 0   | 0   | 0   | 0  | 0   | 0 | 585  |     |
| 621 Dewitt    | 0 | 1   | 1   | 0 --  | -- | 4.545483 | 0  | 51  | 14  | 277 | 0   | 28  | 35  | 0   | 5   | 0   | 332  | 0  | 0   | 31  | 23  | 15 | 39  | 0 | 268  |     |
| 622 Dewitt    | 0 | 0   | 0   | 0 --  | -- | 4.545483 | 0  | 13  | 9   | 32  | 118 | 0   | 38  | 0   | 1   | 184 | 226  | 0  | 53  | 3   | 46  | 6  | 0   | 0 | 211  |     |
| 623 Manlius   | 0 | 494 | 494 | 0 --  | -- | 0.103964 | 11 | 18  | 0   | 0   | 0   | 261 | 46  | 0   | 0   | 0   | 0    | 0  | 0   | 40  | 10  | 0  | 0   | 0 | 385  |     |
| 624 Manlius   | 0 | 61  | 61  | 0 --  | -- | 0.103964 | 0  | 0   | 0   | 17  | 0   | 0   | 0   | 15  | 0   | 0   | 0    | 0  | 0   | 0   | 0   | 9  | 0   | 0 | 41   |     |
| 625 Manlius   | 0 | 69  | 69  | 0 --  | -- | 0.103964 | 2  | 35  | 28  | 0   | 0   | 306 | 0   | 0   | 0   | 0   | 0    | 0  | 0   | 17  | 30  | 0  | 0   | 0 | 418  |     |
| 626 Manlius   | 0 | 290 | 290 | 0 --  | -- | 0.017698 | 0  | 0   | 0   | 3   | 0   | 0   | 0   | 16  | 0   | 0   | 0    | 0  | 0   | 0   | 0   | 0  | 0   | 0 | 19   |     |
| 627 Salina    | 0 | 796 | 796 | 0 --  | -- | 2.94917  | 0  | 14  | 0   | 0   | 40  | 0   | 77  | 94  | 116 | 0   | 9    | 0  | 0   | 8   | 29  | 0  | 0   | 0 | 387  |     |
| 628 Salina    | 0 | 394 | 394 | 0 --  | -- | 2.914754 | 0  | 3   | 0   | 0   | 329 | 106 | 15  | 0   | 0   | 0   | 0    | 0  | 0   | 8   | 0   | 0  | 0   | 0 | 461  |     |
| 1103 Salina   | 0 | 0   | 0   | 0 --  | -- | 1.048512 | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 4    | 0  | 0   | 0   | 0   | 0  | 18  | 0 | 22   |     |
| 1102 Salina   | 0 | 0   | 0   | 0 --  | -- | 1.048512 | 0  | 63  | 7   | 72  | 0   | 44  | 8   | 0   | 30  | 0   | 0    | 0  | 0   | 0   | 69  | 0  | 0   | 0 | 293  |     |
| 1104 Salina   | 0 | 290 | 290 | 0 --  | -- | 1.048512 | 0  | 0   | 0   | 0   | 76  | 0   | 0   | 0   | 0   | 79  | 0    | 0  | 0   | 0   | 0   | 0  | 0   | 0 | 155  |     |
| 630 Salina    | 0 | 0   | 0   | 0 --  | -- | 1.048512 | 0  | 17  | 0   | 0   | 34  | 0   | 30  | 0   | 65  | 68  | 0    | 0  | 0   | 0   | 0   | 0  | 0   | 0 | 214  |     |
| 631 Dewitt    | 0 | 13  | 13  | 0 --  | -- | 1.20108  | 0  | 61  | 160 | 48  | 35  | 0   | 531 | 0   | 103 | 10  | 1447 | 33 | 0   | 7   | 600 | 23 | 33  | 0 | 66   |     |
| 632 Dewitt    | 0 | 40  | 40  | 0 --  | -- | 1.20108  | 5  | 157 | 29  | 328 | 72  | 117 | 190 | 0   | 121 | 0   | 548  | 0  | 0   | 21  | 21  | 27 | 44  | 0 | 99   |     |
| 633 Salina    | 0 | 17  | 17  | 0 --  | -- | 1.180026 | 0  | 30  | 0   | 150 | 0   | 0   | 0   | 0   | 0   | 0   | 26   | 0  | 0   | 23  | 17  | 0  | 201 | 0 | 21   |     |
| 634 Salina    | 0 | 0   | 0   | 0 --  | -- | 1.180026 | 0  | 71  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 50   | 0  | 0   | 49  | 0   | 0  | 0   | 0 | 79   |     |
| 635 Salina    | 0 | 71  | 71  | 0 --  | -- | 1.180026 | 0  | 22  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 0  | 0   | 1   | 16  | 0  | 0   | 0 | 64   |     |
| 636 Van Buren | 0 | 61  | 61  | 0 --  | -- | 0        | 0  | 0   | 0   | 12  | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 0  | 0   | 1   | 10  | 0  | 0   | 0 | 34   |     |
| 637 Salina    | 0 | 474 | 474 | 0 --  | -- | 1.217568 | 0  | 0   | 0   | 5   | 0   | 0   | 7   | 0   | 0   | 0   | 0    | 0  | 0   | 0   | 0   | 0  | 3   | 0 | 16   |     |
| 638 Dewitt    | 0 | 10  | 10  | 0 --  | -- | 4.5457   | 0  | 3   | 0   | 28  | 131 | 0   | 698 | 0   | 0   | 76  | 0    | 0  | 0   | 1   | 30  | 0  | 0   | 0 | 967  |     |
| 639 Geddes    | 0 | 396 | 396 | 0 --  | -- | 1.373084 | 0  | 23  | 0   | 24  | 24  | 0   | 9   | 0   | 4   | 17  | 0    | 0  | 0   | 7   | 29  | 0  | 0   | 0 | 164  |     |
| 640 Salina    | 0 | 251 | 251 | 0 --  | -- | 0.554503 | 1  | 72  | 134 | 18  | 15  | 0   | 20  | 0   | 50  | 40  | 0    | 0  | 0   | 120 | 52  | 17 | 0   | 0 | 552  |     |
| 641 Sullivan  | 0 | 145 | 145 | 0 --  | -- | 4.2      | 0  | 22  | 5   | 9   | 13  | 26  | 18  | 10  | 26  | 2   | 23   | 0  | 1   | 27  | 14  | 5  | 11  | 1 | 12   |     |
| 642 Geddes    | 0 | 441 | 440 | 1 --  | -- | 1.716859 | 0  | 7   | 0   | 20  | 41  | 144 | 32  | 0   | 5   | 0   | 0    | 0  | 0   | 29  | 14  | 0  | 0   | 0 | 68   |     |
| 643 Sullivan  | 0 | 86  | 86  | 0 --  | -- | 4.2      | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 0  | 0   | 0   | 0   | 0  | 0   | 0 | 0    |     |
| 644 Dewitt    | 0 | 15  | 0   | 15 -- | -- | 4.545378 | 3  | 287 | 0   | 101 | 0   | 0   | 24  | 0   | 5   | 0   | 132  | 0  | 0   | 88  | 49  | 0  | 223 | 0 | 131  |     |
| 645 Salina    | 0 | 78  | 78  | 0 --  | -- | 1.842984 | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 0  | 0   | 0   | 0   | 0  | 0   | 0 | 0    |     |
| 646 Salina    | 0 | 534 | 534 | 0 --  | -- | 1.842984 | 0  | 4   | 0   | 16  | 1   | 0   | 0   | 0   | 0   | 0   | 49   | 0  | 0   | 9   | 13  | 15 | 5   | 0 | 17   |     |
| 647 Salina    | 0 | 19  | 19  | 0 --  | -- | 1.842984 | 0  | 5   | 0   | 0   | 5   | 0   | 0   | 0   | 0   | 0   | 0    | 0  | 0   | 14  | 14  | 9  | 9   | 0 | 56   |     |
| 648 Salina    | 0 | 236 | 236 | 0 --  | -- | 0.138595 | 0  | 6   | 0   | 0   | 29  | 0   | 0   | 0   | 0   | 0   | 0    | 0  | 0   | 10  | 0   | 0  | 0   | 0 | 45   |     |
| 649 Salina    | 0 | 4   | 4   | 0 --  | -- | 0.138595 | 22 | 299 | 24  | 156 | 195 | 148 | 96  | 0   | 45  | 20  | 144  | 0  | 0   | 36  | 32  | 0  | 15  | 0 | 1260 |     |
| 650 Dewitt    | 0 | 188 | 188 | 0 --  | -- | 6.374065 | 4  | 11  | 0   | 0   | 10  | 0   | 62  | 0   | 0   | 0   | 21   | 0  | 0   | 0   | 27  | 0  | 0   | 0 | 285  |     |
| 651 Dewitt    | 0 | 29  | 29  | 0 --  | -- | 4.554793 | 12 | 300 | 0   | 381 | 34  | 0   | 23  | 25  | 16  | 17  | 1483 | 0  | 265 | 92  | 51  | 23 | 44  | 0 | 465  |     |
| 652 Salina    | 0 | 36  | 36  | 0 --  | -- | 0.256727 | 0  | 1   | 0   | 0   | 1   | 2   | 1   | 1   | 2   | 0   | 1    | 0  | 0   | 1   | 1   | 0  | 0   | 0 | 1    |     |
| 653 Van Buren | 0 | 22  | 22  | 0 --  | -- | 0        | 0  | 0   | 36  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 0  | 0   | 47  | 44  | 0  | 0   | 0 | 127  |     |
| 654 Salina    | 0 | 490 | 490 | 0 --  | -- | 3.240582 | 25 | 40  | 0   | 0   | 127 | 0   | 42  | 35  | 37  | 23  | 12   | 0  | 0   | 24  | 14  | 0  | 23  | 0 | 402  |     |
| 655 Salina    | 0 | 603 | 603 | 0 --  | -- | 2.197023 | 0  | 13  | 0   | 15  | 4   | 49  | 4   | 0   | 0   | 0   | 0    | 0  | 0   | 4   | 38  | 0  |     |   |      |     |



|               |   |      |      |       |    |          |    |     |    |     |     |     |     |     |      |     |      |    |     |     |    |     |     |     |      |      |
|---------------|---|------|------|-------|----|----------|----|-----|----|-----|-----|-----|-----|-----|------|-----|------|----|-----|-----|----|-----|-----|-----|------|------|
| 668 Dewitt    | 0 | 17   | 17   | 0 --  | -- | 6.135851 | 0  | 41  | 0  | 27  | 0   | 0   | 0   | 0   | 0    | 682 | 0    | 0  | 0   | 11  | 0  | 16  | 0   | 0   | 777  |      |
| 669 Van Buren | 0 | 145  | 145  | 0 --  | -- | 5.394997 | 0  | 0   | 0  | 15  | 4   | 0   | 4   | 0   | 0    | 0   | 0    | 0  | 1   | 0   | 0  | 10  | 3   | 0   | 37   |      |
| 670 Van Buren | 0 | 61   | 61   | 0 --  | -- | 5.394997 | 0  | 0   | 0  | 0   | 2   | 0   | 3   | 0   | 0    | 0   | 0    | 0  | 1   | 0   | 0  | 0   | 2   | 0   | 8    |      |
| 671 Sullivan  | 0 | 175  | 175  | 0 --  | -- | 4.2      | 0  | 1   | 0  | 0   | 0   | 0   | 0   | 0   | 0    | 6   | 0    | 0  | 0   | 0   | 0  | 0   | 0   | 0   | 7    |      |
| 672 Dewitt    | 0 | 0    | 0    | 0 --  | -- | 3.889606 | 3  | 288 | 0  | 112 | 0   | 0   | 2   | 7   | 14   | 0   | 13   | 0  | 0   | 35  | 9  | 43  | 197 | 10  | 218  | 951  |
| 673 Dewitt    | 0 | 36   | 13   | 23 -- | -- | 3.889606 | 1  | 238 | 6  | 232 | 21  | 107 | 6   | 34  | 7    | 0   | 358  | 0  | 0   | 208 | 95 | 32  | 916 | 6   | 586  | 2851 |
| 674 Manlius   | 0 | 168  | 168  | 0 --  | -- | 0        | 0  | 2   | 0  | 8   | 0   | 3   | 0   | 0   | 0    | 0   | 0    | 0  | 0   | 21  | 3  | 0   | 0   | 0   | 37   |      |
| 675 Manlius   | 0 | 232  | 225  | 7 --  | -- | 0        | 0  | 6   | 0  | 23  | 0   | 13  | 0   | 0   | 96   | 0   | 0    | 0  | 0   | 9   | 9  | 0   | 0   | 0   | 156  |      |
| 676 Salina    | 0 | 336  | 330  | 6 --  | -- | 2.57631  | 0  | 10  | 0  | 0   | 91  | 262 | 0   | 30  | 26   | 0   | 0    | 0  | 141 | 30  | 0  | 0   | 0   | 6   | 595  |      |
| 677 Salina    | 0 | 417  | 417  | 0 --  | -- | 2.318817 | 0  | 0   | 0  | 0   | 0   | 0   | 0   | 0   | 0    | 14  | 1    | 0  | 0   | 0   | 0  | 0   | 0   | 0   | 15   |      |
| 678 Van Buren | 0 | 84   | 84   | 0 --  | -- | 0        | 0  | 37  | 0  | 3   | 38  | 0   | 0   | 11  | 0    | 0   | 0    | 0  | 1   | 19  | 0  | 19  | 0   | 5   | 133  |      |
| 679 Salina    | 0 | 1000 | 1000 | 0 --  | -- | 2.43391  | 0  | 0   | 0  | 0   | 0   | 0   | 0   | 0   | 0    | 0   | 0    | 0  | 15  | 0   | 19 | 49  | 0   | 0   | 83   |      |
| 680 Salina    | 0 | 180  | 180  | 0 --  | -- | 4.686657 | 1  | 22  | 8  | 36  | 30  | 94  | 11  | 8   | 12   | 3   | 2    | 0  | 0   | 125 | 35 | 4   | 137 | 7   | 16   | 550  |
| 681 Salina    | 0 | 485  | 485  | 0 --  | -- | 4.686657 | 0  | 6   | 0  | 2   | 0   | 4   | 0   | 0   | 1    | 0   | 11   | 0  | 0   | 21  | 13 | 1   | 3   | 0   | 1    | 65   |
| 682 Van Buren | 0 | 28   | 28   | 0 --  | -- | 0        | 0  | 0   | 0  | 39  | 0   | 0   | 0   | 0   | 0    | 0   | 0    | 0  | 24  | 80  | 0  | 8   | 0   | 128 | 279  |      |
| 683 Salina    | 0 | 278  | 271  | 7 --  | -- | 0.067075 | 0  | 11  | 0  | 0   | 0   | 0   | 0   | 17  | 29   | 0   | 0    | 0  | 0   | 144 | 0  | 0   | 144 | 479 | 824  |      |
| 684 Liverpool | 0 | 103  | 103  | 0 --  | -- | 4.34017  | 0  | 0   | 0  | 0   | 0   | 0   | 0   | 0   | 0    | 0   | 0    | 0  | 0   | 0   | 0  | 0   | 0   | 0   | 0    |      |
| 685 Liverpool | 0 | 319  | 312  | 7 --  | -- | 4.34017  | 0  | 3   | 0  | 0   | 0   | 72  | 0   | 17  | 6    | 0   | 0    | 0  | 0   | 60  | 6  | 0   | 0   | 0   | 165  |      |
| 686 Dewitt    | 0 | 67   | 67   | 0 --  | -- | 6.36034  | 0  | 51  | 0  | 25  | 9   | 0   | 27  | 0   | 4    | 0   | 7    | 0  | 0   | 20  | 35 | 11  | 497 | 0   | 55   | 741  |
| 687 Salina    | 0 | 285  | 285  | 0 --  | -- | 2.877529 | 0  | 0   | 0  | 7   | 0   | 0   | 0   | 0   | 0    | 0   | 0    | 0  | 0   | 6   | 0  | 0   | 0   | 0   | 13   |      |
| 688 Van Buren | 0 | 181  | 181  | 0 --  | -- | 0        | 1  | 0   | 0  | 0   | 0   | 0   | 0   | 0   | 0    | 0   | 0    | 0  | 0   | 29  | 0  | 0   | 0   | 0   | 30   |      |
| 689 Van Buren | 0 | 0    | 0    | 0 --  | -- | 0        | 0  | 56  | 0  | 5   | 30  | 0   | 0   | 0   | 0    | 0   | 56   | 0  | 0   | 112 | 0  | 0   | 20  | 0   | 26   | 305  |
| 690 Dewitt    | 0 | 13   | 13   | 0 --  | -- | 6.374453 | 12 | 388 | 1  | 82  | 0   | 1   | 39  | 1   | 328  | 0   | 2    | 0  | 0   | 36  | 41 | 76  | 2   | 2   | 156  | 1169 |
| 691 Dewitt    | 0 | 2    | 2    | 0 --  | -- | 6.374453 | 0  | 69  | 10 | 23  | 0   | 0   | 7   | 5   | 10   | 0   | 261  | 0  | 0   | 109 | 21 | 2   | 100 | 2   | 146  | 766  |
| 692 Liverpool | 0 | 292  | 273  | 19 -- | -- | 3.143479 | 0  | 5   | 0  | 0   | 0   | 0   | 0   | 140 | 0    | 0   | 0    | 0  | 0   | 7   | 0  | 0   | 0   | 0   | 152  |      |
| 693 Salina    | 0 | 470  | 470  | 0 --  | -- | 1.953036 | 0  | 54  | 0  | 152 | 55  | 0   | 7   | 9   | 0    | 18  | 1516 | 0  | 0   | 97  | 92 | 7   | 97  | 0   | 12   | 2116 |
| 694 Geddes    | 0 | 11   | 11   | 0 --  | -- | 0.888701 | 0  | 53  | 0  | 67  | 7   | 0   | 19  | 0   | 0    | 0   | 132  | 0  | 2   | 30  | 3  | 0   | 6   | 0   | 73   | 392  |
| 695 Salina    | 0 | 4    | 4    | 0 --  | -- | 2.160418 | 0  | 179 | 0  | 37  | 0   | 0   | 179 | 0   | 0    | 0   | 183  | 0  | 0   | 49  | 48 | 0   | 0   | 0   | 170  | 845  |
| 696 Van Buren | 0 | 2    | 2    | 0 --  | -- | 0        | 0  | 0   | 0  | 0   | 0   | 0   | 0   | 0   | 0    | 0   | 0    | 0  | 0   | 0   | 0  | 205 | 0   | 0   | 205  |      |
| 697 Salina    | 0 | 200  | 200  | 0 --  | -- | 0.201191 | 0  | 5   | 0  | 0   | 0   | 70  | 0   | 0   | 0    | 0   | 0    | 0  | 0   | 0   | 0  | 0   | 0   | 0   | 75   |      |
| 698 Salina    | 0 | 286  | 286  | 0 --  | -- | 0.201191 | 0  | 0   | 0  | 3   | 4   | 0   | 0   | 0   | 0    | 1   | 0    | 0  | 0   | 3   | 1  | 0   | 0   | 0   | 12   |      |
| 699 Sullivan  | 0 | 70   | 70   | 0 --  | -- | 4.2      | 0  | 0   | 0  | 0   | 0   | 0   | 0   | 0   | 0    | 0   | 0    | 0  | 0   | 0   | 0  | 0   | 0   | 0   | 0    |      |
| 700 Van Buren | 0 | 183  | 183  | 0 --  | -- | 0.877729 | 0  | 0   | 0  | 42  | 17  | 0   | 0   | 0   | 0    | 0   | 0    | 0  | 1   | 19  | 0  | 0   | 0   | 0   | 79   |      |
| 701 Salina    | 0 | 552  | 552  | 0 --  | -- | 1.949316 | 0  | 12  | 0  | 29  | 0   | 280 | 0   | 0   | 9    | 0   | 0    | 0  | 158 | 54  | 0  | 0   | 0   | 211 | 753  |      |
| 1107 Clay     | 0 | 10   | 10   | 0 --  | -- | 2.366109 | 0  | 0   | 0  | 0   | 0   | 0   | 0   | 0   | 0    | 0   | 0    | 0  | 0   | 13  | 0  | 0   | 0   | 0   | 13   |      |
| 1108 Clay     | 0 | 50   | 50   | 0 --  | -- | 2.366109 | 0  | 0   | 0  | 0   | 0   | 0   | 0   | 0   | 0    | 0   | 0    | 0  | 0   | 0   | 0  | 0   | 0   | 0   | 0    |      |
| 703 Van Buren | 0 | 103  | 103  | 0 --  | -- | 5.394985 | 9  | 0   | 0  | 0   | 0   | 0   | 0   | 0   | 0    | 0   | 0    | 0  | 0   | 0   | 0  | 0   | 0   | 0   | 9    |      |
| 704 Geddes    | 0 | 110  | 104  | 6 --  | -- | 0.05829  | 0  | 4   | 0  | 61  | 0   | 0   | 19  | 0   | 0    | 0   | 37   | 0  | 23  | 0   | 0  | 0   | 0   | 42  | 186  |      |
| 705 Salina    | 0 | 551  | 546  | 5 --  | -- | 0.998095 | 0  | 31  | 9  | 0   | 100 | 31  | 11  | 46  | 0    | 0   | 14   | 0  | 0   | 250 | 36 | 0   | 0   | 32  | 2    | 562  |
| 706 Salina    | 0 | 4    | 4    | 0 --  | -- | 0.998095 | 0  | 299 | 11 | 0   | 54  | 40  | 27  | 60  | 0    | 27  | 0    | 0  | 0   | 16  | 87 | 0   | 0   | 42  | 3    | 665  |
| 707 Geddes    | 0 | 0    | 0    | 0 --  | -- | 0.005268 | 0  | 0   | 0  | 0   | 0   | 0   | 0   | 0   | 0    | 57  | 124  | 60 | 13  | 0   | 39 | 0   | 59  | 16  | 238  | 606  |
| 708 Van Buren | 0 | 471  | 471  | 0 --  | -- | 0.092026 | 0  | 26  | 0  | 0   | 18  | 33  | 3   | 0   | 11   | 0   | 0    | 0  | 34  | 28  | 4  | 0   | 0   | 10  | 167  |      |
| 709 Clay      | 0 | 42   | 42   | 0 --  | -- | 1.642154 | 0  | 29  | 0  | 14  | 15  | 0   | 0   | 0   | 86   | 0   | 128  | 0  | 0   | 46  | 0  | 0   | 0   | 206 | 524  |      |
| 710 Clay      | 0 | 47   | 47   | 0 --  | -- | 1.482841 | 0  | 34  | 0  | 0   | 8   | 50  | 278 | 0   | 1066 | 13  | 0    | 0  | 0   | 12  | 16 | 23  | 0   | 0   | 1500 |      |
| 711 Salina    | 0 | 30   | 30   | 0 --  | -- | 0.715443 | 0  | 0   | 0  | 0   | 0   | 0   | 0   | 0   | 0    | 0   | 0    | 0  | 0   | 0   | 0  | 0   | 0   | 0   | 0    |      |
| 1105 Salina   | 0 | 0    | 0    | 0 --  | -- | 0.715443 | 0  | 0   | 0  | 0   | 32  | 0   | 0   | 0   | 0    | 0   | 0    | 0  | 0   | 24  | 0  | 0   | 0   | 11  | 67   |      |
| 1106 Salina   | 0 | 4    | 4    | 0 --  | -- | 0.715443 | 0  | 4   | 0  | 5   | 21  | 0   | 4   | 0   | 10   | 0   | 0    | 0  | 4   | 0   | 0  | 0   | 0   | 16  | 64   |      |
| 713 Clay      | 0 | 154  | 154  | 0 --  | -- |          |    |     |    |     |     |     |     |     |      |     |      |    |     |     |    |     |     |     |      |      |



|                |   |      |      |      |    |          |    |     |    |    |     |     |     |     |     |     |    |    |     |     |    |     |    |     |      |     |
|----------------|---|------|------|------|----|----------|----|-----|----|----|-----|-----|-----|-----|-----|-----|----|----|-----|-----|----|-----|----|-----|------|-----|
| 727 Clay       | 0 | 223  | 223  | 0 -- | -- | 2.56148  | 0  | 5   | 0  | 18 | 46  | 0   | 39  | 0   | 16  | 0   | 17 | 0  | 0   | 10  | 59 | 0   | 0  | 0   | 0    | 210 |
| 728 Cicero     | 0 | 0    | 0    | 0 -- | -- | 0        | 0  | 0   | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0  | 12  | 7   | 0  | 84  | 0  | 3   | 106  |     |
| 729 Salina     | 0 | 452  | 446  | 6 -- | -- | 0.072285 | 1  | 0   | 0  | 22 | 0   | 164 | 0   | 0   | 0   | 0   | 0  | 0  | 0   | 0   | 89 | 0   | 0  | 0   | 275  |     |
| 730 Salina     | 0 | 72   | 72   | 0 -- | -- | 0.072285 | 1  | 0   | 0  | 1  | 0   | 8   | 0   | 0   | 0   | 0   | 0  | 0  | 0   | 0   | 4  | 0   | 0  | 0   | 14   |     |
| 731 Clay       | 0 | 273  | 273  | 0 -- | -- | 4.303524 | 0  | 0   | 0  | 0  | 19  | 0   | 314 | 0   | 14  | 0   | 0  | 0  | 13  | 15  | 0  | 0   | 0  | 33  | 408  |     |
| 732 Clay       | 0 | 8    | 8    | 0 -- | -- | 6.704257 | 0  | 66  | 0  | 0  | 6   | 71  | 0   | 0   | 0   | 690 | 0  | 26 | 83  | 17  | 14 | 27  | 0  | 11  | 1011 |     |
| 733 Clay       | 0 | 0    | 0    | 0 -- | -- | 6.704257 | 0  | 39  | 0  | 0  | 7   | 83  | 10  | 0   | 0   | 315 | 0  | 32 | 146 | 88  | 15 | 54  | 0  | 88  | 877  |     |
| 734 Cicero     | 0 | 1    | 1    | 0 -- | -- | 0.282692 | 0  | 2   | 0  | 0  | 1   | 3   | 2   | 1   | 3   | 0   | 2  | 0  | 5   | 2   | 1  | 1   | 1  | 1   | 25   |     |
| 735 Cicero     | 0 | 170  | 170  | 0 -- | -- | 0.282692 | 0  | 26  | 0  | 25 | 37  | 0   | 0   | 0   | 0   | 242 | 0  | 4  | 28  | 148 | 0  | 0   | 0  | 16  | 525  |     |
| 736 North Syra | 0 | 557  | 550  | 7 -- | -- | 4.59757  | 0  | 77  | 38 | 81 | 26  | 211 | 77  | 20  | 10  | 0   | 42 | 0  | 0   | 137 | 71 | 9   | 11 | 0   | 89   | 900 |
| 737 Cicero     | 0 | 10   | 10   | 0 -- | -- | 1.005513 | 0  | 0   | 0  | 19 | 33  | 0   | 0   | 0   | 0   | 0   | 0  | 0  | 14  | 128 | 0  | 0   | 0  | 53  | 245  |     |
| 738 Lysander   | 0 | 195  | 195  | 0 -- | -- | 1.322751 | 0  | 0   | 0  | 6  | 9   | 0   | 0   | 0   | 0   | 1   | 0  | 0  | 0   | 1   | 0  | 10  | 0  | 0   | 27   |     |
| 739 Lysander   | 0 | 99   | 99   | 0 -- | -- | 1.322751 | 7  | 12  | 0  | 0  | 62  | 0   | 0   | 0   | 0   | 7   | 1  | 0  | 0   | 32  | 1  | 0   | 0  | 0   | 122  |     |
| 740 North Syra | 0 | 510  | 510  | 0 -- | -- | 1.565878 | 1  | 120 | 0  | 10 | 84  | 18  | 85  | 0   | 9   | 0   | 22 | 0  | 0   | 118 | 81 | 11  | 0  | 0   | 111  | 669 |
| 741 Van Buren  | 0 | 200  | 200  | 0 -- | -- | 0        | 0  | 0   | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0  | 19  | 0   | 0  | 0   | 0  | 0   | 19   |     |
| 742 Salina     | 0 | 606  | 606  | 0 -- | -- | 0        | 0  | 0   | 0  | 0  | 0   | 0   | 36  | 0   | 0   | 0   | 0  | 0  | 6   | 0   | 0  | 0   | 0  | 0   | 42   |     |
| 743 Cicero     | 0 | 418  | 418  | 0 -- | -- | 0.916457 | 0  | 1   | 0  | 20 | 6   | 0   | 4   | 0   | 0   | 0   | 0  | 0  | 14  | 1   | 0  | 0   | 0  | 7   | 53   |     |
| 744 Cicero     | 0 | 28   | 28   | 0 -- | -- | 0.916457 | 0  | 331 | 0  | 0  | 0   | 0   | 11  | 0   | 0   | 0   | 0  | 0  | 32  | 14  | 0  | 52  | 0  | 0   | 440  |     |
| 745 Clay       | 0 | 222  | 222  | 0 -- | -- | 0.000333 | 0  | 29  | 0  | 22 | 0   | 0   | 82  | 0   | 0   | 0   | 10 | 0  | 24  | 11  | 21 | 0   | 0  | 0   | 198  |     |
| 746 Clay       | 0 | 443  | 443  | 0 -- | -- | 0.023661 | 0  | 0   | 0  | 4  | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0  | 0   | 0   | 0  | 0   | 0  | 0   | 4    |     |
| 747 Clay       | 0 | 739  | 739  | 0 -- | -- | 1.547357 | 0  | 0   | 0  | 0  | 0   | 0   | 10  | 0   | 0   | 0   | 3  | 0  | 3   | 0   | 0  | 0   | 0  | 20  | 36   |     |
| 748 Clay       | 0 | 1    | 1    | 0 -- | -- | 7.237124 | 0  | 105 | 0  | 0  | 0   | 115 | 50  | 206 | 17  | 0   | 12 | 0  | 262 | 236 | 0  | 41  | 0  | 690 | 1734 |     |
| 749 Clay       | 0 | 56   | 56   | 0 -- | -- | 7.237124 | 0  | 59  | 0  | 22 | 19  | 0   | 233 | 0   | 46  | 0   | 14 | 32 | 45  | 8   | 3  | 23  | 0  | 91  | 595  |     |
| 750 Clay       | 0 | 1470 | 1462 | 8 -- | -- | 2.556777 | 0  | 94  | 0  | 7  | 147 | 0   | 55  | 0   | 29  | 5   | 0  | 0  | 72  | 193 | 42 | 0   | 0  | 30  | 675  |     |
| 751 Cicero     | 0 | 0    | 0    | 0 -- | -- | 0.001322 | 1  | 3   | 0  | 0  | 1   | 3   | 2   | 1   | 3   | 1   | 2  | 0  | 5   | 1   | 1  | 1   | 0  | 1   | 26   |     |
| 752 Cicero     | 0 | 320  | 315  | 5 -- | -- | 0.001322 | 0  | 9   | 0  | 7  | 0   | 5   | 0   | 0   | 0   | 0   | 0  | 0  | 22  | 0   | 0  | 0   | 0  | 0   | 43   |     |
| 753 Clay       | 0 | 288  | 288  | 0 -- | -- | 2.320176 | 0  | 0   | 0  | 0  | 14  | 81  | 5   | 0   | 43  | 0   | 0  | 0  | 91  | 0   | 17 | 6   | 0  | 0   | 257  |     |
| 754 North Syra | 0 | 586  | 586  | 0 -- | -- | 0.43022  | 0  | 3   | 0  | 5  | 0   | 0   | 3   | 0   | 3   | 5   | 0  | 0  | 26  | 19  | 0  | 4   | 0  | 4   | 70   |     |
| 755 Clay       | 0 | 389  | 389  | 0 -- | -- | 0.083307 | 0  | 23  | 0  | 4  | 49  | 0   | 6   | 0   | 0   | 0   | 0  | 0  | 8   | 9   | 0  | 0   | 0  | 0   | 99   |     |
| 756 Clay       | 0 | 6    | 6    | 0 -- | -- | 0.57235  | 0  | 0   | 0  | 0  | 75  | 0   | 0   | 0   | 0   | 0   | 0  | 0  | 250 | 0   | 0  | 0   | 0  | 0   | 325  |     |
| 757 Van Buren  | 0 | 693  | 693  | 0 -- | -- | 0        | 0  | 12  | 0  | 0  | 0   | 74  | 18  | 0   | 0   | 0   | 0  | 6  | 0   | 0   | 0  | 0   | 0  | 0   | 110  |     |
| 758 Cicero     | 0 | 57   | 57   | 0 -- | -- | 1.015246 | 0  | 15  | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0  | 7   | 0   | 0  | 0   | 0  | 0   | 22   |     |
| 759 North Syra | 0 | 146  | 146  | 0 -- | -- | 1.622437 | 0  | 0   | 0  | 1  | 0   | 2   | 2   | 2   | 0   | 0   | 0  | 0  | 0   | 0   | 8  | 2   | 0  | 0   | 17   |     |
| 760 North Syra | 0 | 195  | 195  | 0 -- | -- | 1.622437 | 0  | 0   | 0  | 1  | 0   | 1   | 1   | 2   | 0   | 0   | 0  | 0  | 1   | 0   | 5  | 2   | 0  | 0   | 13   |     |
| 761 Clay       | 0 | 536  | 536  | 0 -- | -- | 0.943724 | 0  | 19  | 0  | 17 | 45  | 0   | 113 | 0   | 13  | 0   | 21 | 0  | 68  | 14  | 0  | 70  | 0  | 6   | 386  |     |
| 762 Clay       | 0 | 363  | 363  | 0 -- | -- | 0.002341 | 0  | 57  | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0  | 7   | 28  | 0  | 0   | 0  | 7   | 99   |     |
| 763 Salina     | 0 | 205  | 205  | 0 -- | -- | 0        | 0  | 0   | 0  | 0  | 0   | 77  | 0   | 0   | 0   | 0   | 0  | 0  | 0   | 0   | 0  | 0   | 0  | 0   | 77   |     |
| 764 Lysander   | 0 | 280  | 280  | 0 -- | -- | 0        | 0  | 0   | 0  | 15 | 24  | 0   | 0   | 65  | 0   | 0   | 34 | 0  | 0   | 0   | 0  | 0   | 0  | 0   | 138  |     |
| 765 North Syra | 0 | 9    | 9    | 0 -- | -- | 1.350143 | 0  | 0   | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0  | 0   | 0   | 0  | 0   | 0  | 0   | 0    |     |
| 766 North Syra | 0 | 49   | 49   | 0 -- | -- | 1.350143 | 0  | 0   | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0  | 0   | 0   | 0  | 0   | 0  | 0   | 0    |     |
| 767 Van Buren  | 0 | 79   | 79   | 0 -- | -- | 0.921056 | 0  | 7   | 0  | 8  | 0   | 0   | 0   | 0   | 0   | 66  | 0  | 0  | 6   | 14  | 0  | 0   | 0  | 0   | 101  |     |
| 768 Clay       | 0 | 243  | 243  | 0 -- | -- | 0.097446 | 0  | 3   | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 8   | 0  | 0  | 0   | 1   | 1  | 0   | 0  | 0   | 13   |     |
| 769 Cicero     | 0 | 124  | 124  | 0 -- | -- | 2.803741 | 0  | 0   | 0  | 0  | 10  | 0   | 0   | 0   | 0   | 0   | 0  | 1  | 2   | 3   | 0  | 19  | 0  | 0   | 35   |     |
| 770 Cicero     | 0 | 37   | 37   | 0 -- | -- | 2.803741 | 1  | 0   | 0  | 75 | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 8  | 9   | 1   | 0  | 106 | 0  | 5   | 205  |     |
| 771 Van Buren  | 0 | 651  | 651  | 0 -- | -- | 0        | 0  | 16  | 0  | 0  | 0   | 0   | 13  | 0   | 0   | 0   | 0  | 0  | 0   | 0   | 0  | 0   | 0  | 0   | 29   |     |
| 772 Van Buren  | 0 | 179  | 179  | 0 -- | -- | 0.943396 | 22 | 0   | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0  | 0   | 0   | 0  | 0   | 0  | 0   | 22   |     |
| 773 Van Buren  | 0 | 111  | 111  | 0 -- | -- | 0.943396 | 0  | 1   | 0  | 0  | 1   | 1   | 1   | 0   | 1   | 0   | 1  | 0  | 2   | 1   | 0  | 0   | 0  | 1   | 10   |     |
| 774 Clay       | 0 | 464  | 464  | 0 -- | -- | 0.307083 | 0  | 0   | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0  | 9   | 0   | 0  | 0   | 0  | 0   | 9    |     |
| 775 Van Buren  | 0 | 257  | 257  | 0 -- | -- | 0.000632 | 0  | 0   | 0  | 0  | 25  | 147 | 0   | 0   | 0   | 0   | 0  | 0  | 0   | 24  | 0  | 0   | 0  | 11  | 208  |     |
| 776 Van Buren  | 0 | 47   | 47   | 0 -- | -- | 0.718731 | 4  | 3   | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0  | 0   | 0   | 0  | 0   | 0  | 0   | 7    |     |
| 777 Van Buren  | 0 | 27   | 27   | 0 -- | -- | 0.718731 | 4  | 0   | 0  | 7  | 0   | 0   | 0   | 51  | 0   | 0   | 0  | 0  | 0   | 0   | 0  | 0   | 0  | 0   | 62   |     |
| 778 North Syra | 0 | 497  | 497  | 0 -- | -- | 0.000732 | 0  | 0   | 0  | 0  | 18  | 0   | 61  | 0   | 10  | 0   | 0  | 0  | 18  | 7   | 0  | 0   | 0  | 0   | 115  |     |
| 779 North Syra | 0 | 134  | 134  | 0 -- | -- | 0.000732 | 0  | 35  | 0  | 10 | 0   | 21  | 7   | 0   | 26  | 0   | 10 | 0  | 38  | 8   | 11 | 0   | 0  | 0   | 165  |     |
| 780 Cicero     | 0 | 140  | 140  | 0 -- | -- | 0.040278 | 0  | 0   | 0  | 0  | 0   | 81  | 0   | 0   | 0   | 0   | 0  | 0  | 0   | 0   | 0  | 0   | 0  | 0   | 81   |     |
| 781 Clay       | 0 | 215  | 215  | 0 -- | -- | 0        | 0  | 1   | 0  | 1  | 0   | 0   | 1   | 0   | 1   | 0   | 0  | 0  | 0   | 0   | 0  | 0   | 0  | 1   | 4    |     |
| 782 Clay       | 0 | 473  | 473  | 0 -- | -- | 0        | 0  | 0   | 0  | 7  | 0   | 81  | 0   | 0   | 0   | 0   | 0  | 0  | 4   | 0   | 0  | 0   | 5  | 6   | 103  |     |
| 783 North Syra | 0 | 25   | 25   | 0 -- | -- | 10.33249 | 0  | 11  | 0  | 0  | 0   | 0   | 0   | 30  | 0   | 0   | 0  | 0  | 0   | 14  | 0  | 0   | 0  | 0   | 55   |     |
| 784 North Syra | 0 | 423  | 420  | 3 -- | -- | 10.33249 | 6  | 232 | 0  | 49 | 159 | 19  | 72  | 29  | 123 | 0   | 15 | 0  | 108 | 21  | 8  | 0   | 0  | 32  | 875  |     |
| 785 Clay       | 0 | 549  | 549  | 0 -- | -- | 1.238498 | 0  | 0   | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0  | 0   | 0   | 35 | 0   | 0  | 0   | 35   |     |
| 786 Lysander   | 0 | 262  | 262  | 0 -- | -- | 0.014176 | 0  | 4   | 1  | 1  | 2   | 4   | 3   | 1   | 4   | 0   | 4  | 0  | 5   | 2   | 1  | 1   | 0  | 2   | 35   |     |
| 787 Lysander   | 0 | 415  | 415  | 0 -- | -- | 0.014176 | 6  | 14  | 0  | 26 | 0   | 0   | 14  | 0   | 0   | 0   | 35 | 0  | 0   | 0   | 0  | 0   | 0  | 0   | 95   |     |



|                |   |      |      |       |    |          |    |    |    |     |     |     |     |     |     |     |     |     |     |     |    |     |      |
|----------------|---|------|------|-------|----|----------|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|------|
| 788 Clay       | 0 | 304  | 304  | 0 --  | -- | 0.815182 | 0  | 5  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 14  | 0   | 0   | 0   | 0   | 0  | 0   | 19   |
| 789 Clay       | 0 | 88   | 88   | 0 --  | -- | 0.815182 | 0  | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 4   | 181 | 0  | 0   | 185  |
| 790 Baldwinsvi | 0 | 123  | 123  | 0 --  | -- | 6.91018  | 0  | 25 | 0  | 0   | 0   | 0   | 34  | 0   | 0   | 0   | 0   | 22  | 5   | 0   | 0  | 0   | 86   |
| 791 Clay       | 0 | 416  | 416  | 0 --  | -- | 0        | 0  | 0  | 0  | 12  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 319 | 9   | 0   | 0  | 0   | 349  |
| 792 Cicero     | 0 | 227  | 227  | 0 --  | -- | 0        | 0  | 0  | 0  | 58  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0   | 58   |
| 793 Clay       | 0 | 3    | 3    | 0 --  | -- | 2.389424 | 0  | 10 | 0  | 0   | 0   | 0   | 13  | 211 | 0   | 0   | 0   | 15  | 0   | 0   | 15 | 0   | 275  |
| 794 Clay       | 0 | 391  | 391  | 0 --  | -- | 0.815861 | 0  | 24 | 0  | 0   | 0   | 0   | 52  | 0   | 0   | 0   | 23  | 0   | 19  | 35  | 0  | 0   | 160  |
| 795 Clay       | 0 | 748  | 743  | 5 --  | -- | 0.002658 | 0  | 27 | 0  | 0   | 0   | 0   | 53  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0   | 80   |
| 796 Van Buren  | 0 | 59   | 59   | 0 --  | -- | 0.921083 | 0  | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0   | 87   |
| 797 Van Buren  | 0 | 122  | 122  | 0 --  | -- | 3.412934 | 0  | 7  | 0  | 0   | 87  | 7   | 51  | 0   | 0   | 15  | 0   | 0   | 80  | 7   | 0  | 0   | 255  |
| 798 Baldwinsvi | 0 | 717  | 717  | 0 --  | -- | 3.412934 | 0  | 10 | 0  | 0   | 12  | 4   | 18  | 2   | 184 | 1   | 0   | 0   | 51  | 7   | 43 | 0   | 336  |
| 799 Clay       | 0 | 5    | 5    | 0 --  | -- | 7.352911 | 0  | 63 | 0  | 125 | 7   | 50  | 0   | 0   | 0   | 115 | 0   | 38  | 24  | 0   | 3  | 0   | 448  |
| 800 Lysander   | 0 | 543  | 543  | 0 --  | -- | 0        | 0  | 0  | 0  | 0   | 14  | 6   | 14  | 0   | 0   | 0   | 0   | 0   | 3   | 0   | 0  | 0   | 37   |
| 801 Cicero     | 0 | 456  | 447  | 9 --  | -- | 0.643965 | 0  | 33 | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 33  | 0   | 33 | 0   | 99   |
| 802 Clay       | 0 | 88   | 88   | 0 --  | -- | 0.864663 | 0  | 0  | 0  | 5   | 0   | 340 | 18  | 0   | 19  | 0   | 0   | 0   | 24  | 22  | 0  | 0   | 470  |
| 803 Clay       | 0 | 228  | 228  | 0 --  | -- | 0        | 0  | 0  | 0  | 0   | 0   | 0   | 6   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0   | 6    |
| 804 Cicero     | 0 | 39   | 39   | 0 --  | -- | 1.675749 | 0  | 0  | 0  | 0   | 0   | 0   | 59  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0   | 59   |
| 805 Cicero     | 0 | 0    | 0    | 0 --  | -- | 1.675749 | 0  | 74 | 0  | 0   | 180 | 0   | 71  | 0   | 7   | 4   | 0   | 0   | 109 | 60  | 0  | 0   | 546  |
| 806 Cicero     | 0 | 7    | 7    | 0 --  | -- | 1.675749 | 0  | 46 | 0  | 0   | 42  | 0   | 9   | 0   | 1   | 4   | 0   | 0   | 709 | 140 | 0  | 0   | 951  |
| 807 Cicero     | 0 | 510  | 510  | 0 --  | -- | 2.803643 | 1  | 9  | 2  | 3   | 4   | 10  | 6   | 2   | 9   | 1   | 7   | 1   | 8   | 4   | 2  | 3   | 75   |
| 808 Clay       | 0 | 264  | 260  | 4 --  | -- | 0        | 0  | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0   | 23   |
| 809 Baldwinsvi | 0 | 401  | 386  | 15 -- | -- | 6.720883 | 3  | 6  | 0  | 0   | 19  | 53  | 5   | 0   | 0   | 0   | 0   | 0   | 8   | 8   | 0  | 0   | 106  |
| 810 Baldwinsvi | 0 | 110  | 110  | 0 --  | -- | 6.720883 | 1  | 13 | 0  | 5   | 0   | 0   | 0   | 0   | 0   | 0   | 6   | 0   | 28  | 52  | 0  | 0   | 105  |
| 811 Baldwinsvi | 0 | 93   | 93   | 0 --  | -- | 6.720883 | 0  | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0   | 0    |
| 812 Van Buren  | 0 | 282  | 282  | 0 --  | -- | 0.511894 | 0  | 6  | 0  | 27  | 12  | 0   | 10  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 8   | 73   |
| 813 Clay       | 0 | 1261 | 1258 | 3 --  | -- | 0.012619 | 1  | 10 | 0  | 22  | 58  | 121 | 21  | 0   | 0   | 0   | 19  | 0   | 6   | 9   | 0  | 0   | 268  |
| 814 Van Buren  | 0 | 125  | 125  | 0 --  | -- | 3.414275 | 0  | 59 | 0  | 15  | 0   | 0   | 14  | 0   | 0   | 0   | 0   | 0   | 178 | 15  | 0  | 0   | 282  |
| 815 Lysander   | 0 | 219  | 215  | 4 --  | -- | 0.87505  | 0  | 1  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 2   | 0  | 0   | 3    |
| 816 Lysander   | 0 | 101  | 101  | 0 --  | -- | 0.87505  | 0  | 16 | 0  | 80  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 13  | 0   | 0  | 0   | 109  |
| 817 Cicero     | 0 | 466  | 466  | 0 --  | -- | 2.933986 | 0  | 0  | 0  | 13  | 0   | 166 | 0   | 0   | 33  | 0   | 0   | 0   | 0   | 4   | 0  | 0   | 215  |
| 818 Sullivan   | 0 | 22   | 22   | 0 --  | -- | 4.2      | 0  | 1  | 0  | 1   | 1   | 2   | 1   | 1   | 2   | 0   | 2   | 0   | 1   | 1   | 0  | 1   | 15   |
| 819 Sullivan   | 0 | 46   | 46   | 0 --  | -- | 4.2      | 0  | 35 | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 71  | 0   | 0  | 0   | 106  |
| 820 Clay       | 0 | 29   | 29   | 0 --  | -- | 1.562922 | 1  | 32 | 9  | 0   | 167 | 43  | 93  | 0   | 37  | 0   | 0   | 0   | 124 | 46  | 18 | 0   | 577  |
| 821 Baldwinsvi | 0 | 104  | 104  | 0 --  | -- | 7.077806 | 0  | 54 | 0  | 0   | 0   | 0   | 0   | 0   | 17  | 0   | 0   | 0   | 0   | 32  | 0  | 0   | 103  |
| 822 Baldwinsvi | 0 | 85   | 85   | 0 --  | -- | 7.077806 | 0  | 46 | 0  | 34  | 126 | 5   | 30  | 30  | 11  | 18  | 0   | 0   | 53  | 5   | 0  | 30  | 386  |
| 823 Baldwinsvi | 0 | 186  | 186  | 0 --  | -- | 7.077806 | 0  | 87 | 20 | 8   | 72  | 0   | 53  | 18  | 55  | 0   | 66  | 0   | 81  | 37  | 4  | 80  | 587  |
| 824 Baldwinsvi | 0 | 192  | 192  | 0 --  | -- | 7.077806 | 0  | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 33  | 0   | 0   | 0   | 41  | 41  | 0  | 29  | 144  |
| 825 Baldwinsvi | 0 | 134  | 134  | 0 --  | -- | 7.077806 | 0  | 26 | 24 | 3   | 14  | 0   | 37  | 20  | 3   | 0   | 0   | 0   | 8   | 3   | 9  | 40  | 214  |
| 826 Clay       | 0 | 390  | 390  | 0 --  | -- | 0        | 0  | 9  | 0  | 5   | 6   | 0   | 0   | 0   | 0   | 1   | 0   | 0   | 0   | 0   | 0  | 0   | 21   |
| 827 Clay       | 0 | 614  | 614  | 0 --  | -- | 0        | 1  | 0  | 0  | 5   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 9  | 0   | 15   |
| 828 Cicero     | 0 | 603  | 603  | 0 --  | -- | 0        | 0  | 0  | 0  | 41  | 0   | 0   | 136 | 0   | 0   | 0   | 0   | 0   | 36  | 3   | 0  | 0   | 216  |
| 829 Clay       | 0 | 103  | 103  | 0 --  | -- | 0        | 0  | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 60  | 0  | 0   | 60   |
| 830 Cicero     | 0 | 212  | 212  | 0 --  | -- | 0        | 0  | 28 | 0  | 22  | 52  | 0   | 30  | 80  | 8   | 0   | 0   | 0   | 565 | 107 | 36 | 0   | 936  |
| 831 Clay       | 0 | 615  | 615  | 0 --  | -- | 0.834104 | 0  | 4  | 0  | 0   | 0   | 0   | 0   | 82  | 0   | 0   | 0   | 0   | 0   | 6   | 0  | 0   | 158  |
| 832 Clay       | 0 | 1    | 1    | 0 --  | -- | 0.000037 | 0  | 8  | 0  | 0   | 0   | 8   | 0   | 0   | 0   | 0   | 0   | 0   | 7   | 0   | 0  | 0   | 23   |
| 833 Clay       | 0 | 319  | 319  | 0 --  | -- | 0.000037 | 0  | 0  | 0  | 0   | 35  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0   | 35   |
| 834 Cicero     | 0 | 218  | 218  | 0 --  | -- | 0        | 2  | 57 | 0  | 29  | 88  | 0   | 42  | 0   | 10  | 37  | 0   | 2   | 340 | 146 | 16 | 0   | 778  |
| 835 Lysander   | 0 | 180  | 180  | 0 --  | -- | 0.132281 | 59 | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0   | 59   |
| 836 Lysander   | 0 | 305  | 305  | 0 --  | -- | 0.87513  | 2  | 31 | 0  | 22  | 13  | 0   | 0   | 82  | 0   | 0   | 0   | 2   | 0   | 22  | 0  | 0   | 195  |
| 837 Clay       | 0 | 528  | 528  | 0 --  | -- | 1.575587 | 0  | 20 | 0  | 0   | 28  | 0   | 7   | 0   | 0   | 0   | 0   | 5   | 36  | 0   | 0  | 0   | 96   |
| 838 Clay       | 0 | 409  | 409  | 0 --  | -- | 0        | 0  | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 45 | 0   | 45   |
| 839 Lysander   | 0 | 184  | 184  | 0 --  | -- | 0.000228 | 0  | 11 | 0  | 15  | 0   | 0   | 77  | 0   | 62  | 0   | 2   | 0   | 23  | 19  | 15 | 0   | 225  |
| 840 Lysander   | 0 | 60   | 60   | 0 --  | -- | 0.000228 | 1  | 59 | 0  | 16  | 0   | 0   | 4   | 26  | 15  | 0   | 864 | 0   | 150 | 1   | 3  | 431 | 1585 |
| 841 Clay       | 0 | 966  | 966  | 0 --  | -- | 0        | 0  | 55 | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0   | 55   |
| 842 Lysander   | 0 | 254  | 254  | 0 --  | -- | 0        | 0  | 27 | 0  | 0   | 14  | 534 | 0   | 0   | 0   | 0   | 0   | 0   | 71  | 0   | 0  | 0   | 666  |
| 843 Sullivan   | 0 | 161  | 161  | 0 --  | -- | 4.2      | 0  | 1  | 0  | 0   | 0   | 1   | 1   | 0   | 1   | 0   | 1   | 0   | 1   | 1   | 0  | 0   | 7    |
| 844 Baldwinsvi | 0 | 308  | 308  | 0 --  | -- | 1.123708 | 0  | 0  | 40 | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0   | 40   |
| 845 Lysander   | 0 | 172  | 172  | 0 --  | -- | 1.123708 | 0  | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 8   | 0   | 0  | 0   | 8    |
| 846 Lysander   | 0 | 627  | 623  | 4 --  | -- | 1.123708 | 0  | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 65  | 0   | 0   | 67  | 10  | 0  | 25  | 193  |
| 847 Baldwinsvi | 0 | 155  | 155  | 0 --  | -- | 1.123708 | 0  | 5  | 0  | 2   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 1   | 0   | 0  | 0   | 7    |
| 848 Lysander   | 0 | 143  | 143  | 0 --  | -- | 0.934406 | 16 | 0  | 0  | 0   | 0   | 0   | 41  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0   | 57   |



[illegible]



|                |   |     |     |      |    |          |    |    |    |    |     |     |    |    |    |    |     |   |    |     |    |    |    |   |     |     |
|----------------|---|-----|-----|------|----|----------|----|----|----|----|-----|-----|----|----|----|----|-----|---|----|-----|----|----|----|---|-----|-----|
| 907 Clay       | 0 | 26  | 26  | 0 -- | -- | 0        | 0  | 0  | 0  | 0  | 0   | 0   | 0  | 0  | 0  | 0  | 0   | 0 | 0  | 0   | 0  | 0  | 0  | 0 | 0   | 0   |
| 908 Clay       | 0 | 119 | 119 | 0 -- | -- | 0        | 0  | 0  | 0  | 0  | 0   | 1   | 0  | 0  | 1  | 0  | 1   | 0 | 0  | 0   | 0  | 0  | 0  | 0 | 0   | 3   |
| 909 Lysander   | 0 | 390 | 390 | 0 -- | -- | 0        | 2  | 0  | 0  | 0  | 0   | 29  | 0  | 0  | 0  | 0  | 0   | 0 | 0  | 0   | 0  | 0  | 0  | 0 | 0   | 31  |
| 910 Lysander   | 0 | 81  | 81  | 0 -- | -- | 0        | 0  | 0  | 0  | 16 | 0   | 0   | 0  | 0  | 0  | 0  | 0   | 0 | 4  | 0   | 0  | 0  | 0  | 0 | 0   | 20  |
| 911 Schroepppe | 0 | 61  | 61  | 0 -- | -- | 4.2      | 0  | 10 | 0  | 0  | 0   | 0   | 21 | 0  | 15 | 0  | 0   | 0 | 59 | 21  | 0  | 0  | 0  | 9 | 135 |     |
| 912 Cicero     | 0 | 304 | 304 | 0 -- | -- | 0        | 0  | 3  | 0  | 0  | 0   | 0   | 0  | 0  | 0  | 0  | 0   | 0 | 0  | 0   | 0  | 20 | 0  | 0 | 23  |     |
| 913 Cicero     | 0 | 89  | 89  | 0 -- | -- | 0        | 0  | 99 | 0  | 0  | 0   | 0   | 0  | 0  | 0  | 0  | 0   | 0 | 0  | 0   | 0  | 0  | 0  | 0 | 99  |     |
| 914 Phoenix    | 0 | 105 | 101 | 4 -- | -- | 4.2      | 0  | 0  | 0  | 0  | 0   | 0   | 0  | 0  | 0  | 45 | 0   | 0 | 0  | 0   | 0  | 0  | 0  | 0 | 45  |     |
| 915 Lysander   | 0 | 138 | 138 | 0 -- | -- | 0        | 0  | 19 | 0  | 0  | 0   | 0   | 0  | 0  | 0  | 0  | 0   | 0 | 7  | 0   | 0  | 0  | 0  | 9 | 35  |     |
| 916 Cicero     | 0 | 493 | 493 | 0 -- | -- | 0.020267 | 0  | 8  | 2  | 3  | 5   | 9   | 6  | 3  | 9  | 0  | 8   | 0 | 0  | 11  | 5  | 2  | 3  | 0 | 5   | 79  |
| 917 Phoenix    | 0 | 141 | 141 | 0 -- | -- | 4.2      | 0  | 0  | 0  | 0  | 9   | 0   | 0  | 0  | 0  | 0  | 12  | 0 | 0  | 0   | 0  | 0  | 6  | 0 | 27  |     |
| 918 Clay       | 0 | 188 | 188 | 0 -- | -- | 1.224585 | 0  | 3  | 0  | 2  | 2   | 5   | 3  | 2  | 5  | 0  | 2   | 0 | 0  | 8   | 2  | 0  | 2  | 2 | 2   | 40  |
| 919 Clay       | 0 | 165 | 165 | 0 -- | -- | 1.224585 | 0  | 1  | 0  | 1  | 1   | 1   | 1  | 1  | 1  | 0  | 1   | 0 | 0  | 3   | 1  | 1  | 1  | 0 | 1   | 15  |
| 920 Phoenix    | 0 | 83  | 83  | 0 -- | -- | 4.2      | 3  | 0  | 0  | 33 | 3   | 66  | 10 | 93 | 3  | 0  | 0   | 0 | 0  | 14  | 0  | 0  | 33 | 0 | 7   | 265 |
| 921 Phoenix    | 0 | 90  | 90  | 0 -- | -- | 4.2      | 0  | 1  | 0  | 0  | 1   | 1   | 1  | 0  | 1  | 0  | 1   | 0 | 0  | 2   | 1  | 0  | 0  | 0 | 1   | 10  |
| 922 Clay       | 0 | 119 | 119 | 0 -- | -- | 5.501619 | 0  | 0  | 0  | 1  | 0   | 0   | 2  | 0  | 0  | 0  | 0   | 0 | 0  | 1   | 0  | 0  | 0  | 0 | 0   | 4   |
| 923 Clay       | 0 | 28  | 28  | 0 -- | -- | 5.501619 | 0  | 0  | 0  | 0  | 0   | 0   | 0  | 0  | 0  | 0  | 0   | 0 | 0  | 0   | 0  | 0  | 0  | 0 | 0   | 0   |
| 924 Phoenix    | 0 | 162 | 162 | 0 -- | -- | 4.2      | 0  | 0  | 0  | 76 | 0   | 0   | 0  | 0  | 0  | 0  | 0   | 0 | 0  | 0   | 0  | 0  | 0  | 0 | 0   | 76  |
| 925 Phoenix    | 0 | 77  | 77  | 0 -- | -- | 4.2      | 0  | 13 | 0  | 7  | 7   | 0   | 0  | 13 | 0  | 0  | 3   | 0 | 0  | 9   | 13 | 0  | 0  | 0 | 0   | 65  |
| 926 Phoenix    | 0 | 55  | 55  | 0 -- | -- | 4.2      | 0  | 1  | 0  | 1  | 1   | 2   | 1  | 1  | 2  | 0  | 2   | 0 | 0  | 1   | 1  | 0  | 1  | 0 | 1   | 15  |
| 927 Cicero     | 0 | 282 | 282 | 0 -- | -- | 2.233359 | 0  | 7  | 0  | 86 | 0   | 0   | 2  | 0  | 1  | 0  | 165 | 0 | 0  | 10  | 6  | 0  | 0  | 0 | 1   | 278 |
| 928 Cicero     | 0 | 390 | 390 | 0 -- | -- | 2.233359 | 1  | 24 | 1  | 4  | 101 | 95  | 11 | 0  | 2  | 13 | 0   | 0 | 0  | 11  | 12 | 1  | 0  | 0 | 0   | 275 |
| 929 Cicero     | 0 | 408 | 408 | 0 -- | -- | 2.233359 | 0  | 12 | 0  | 3  | 12  | 0   | 0  | 0  | 0  | 0  | 3   | 0 | 0  | 12  | 3  | 0  | 0  | 0 | 3   | 48  |
| 930 Phoenix    | 0 | 83  | 83  | 0 -- | -- | 4.2      | 0  | 0  | 0  | 0  | 0   | 0   | 0  | 0  | 11 | 0  | 11  | 0 | 0  | 2   | 0  | 11 | 0  | 0 | 0   | 35  |
| 931 Phoenix    | 0 | 30  | 30  | 0 -- | -- | 4.2      | 0  | 0  | 0  | 11 | 0   | 234 | 0  | 0  | 0  | 0  | 0   | 0 | 0  | 0   | 0  | 0  | 0  | 0 | 0   | 245 |
| 932 Phoenix    | 0 | 51  | 51  | 0 -- | -- | 4.2      | 0  | 9  | 0  | 0  | 0   | 94  | 9  | 0  | 0  | 0  | 0   | 0 | 0  | 1   | 0  | 0  | 0  | 0 | 0   | 113 |
| 933 Cicero     | 0 | 126 | 126 | 0 -- | -- | 5.362776 | 0  | 4  | 18 | 35 | 43  | 61  | 0  | 0  | 13 | 0  | 0   | 0 | 0  | 16  | 0  | 0  | 2  | 0 | 2   | 194 |
| 934 Cicero     | 0 | 136 | 136 | 0 -- | -- | 5.362776 | 0  | 5  | 0  | 24 | 15  | 0   | 13 | 23 | 3  | 0  | 0   | 0 | 0  | 11  | 0  | 0  | 10 | 0 | 1   | 105 |
| 935 Phoenix    | 0 | 143 | 143 | 0 -- | -- | 4.2      | 0  | 0  | 0  | 0  | 0   | 0   | 0  | 0  | 0  | 0  | 21  | 0 | 0  | 0   | 0  | 0  | 0  | 0 | 5   | 26  |
| 936 Hastings   | 0 | 74  | 74  | 0 -- | -- | 4.2      | 0  | 3  | 1  | 1  | 1   | 4   | 3  | 1  | 4  | 0  | 4   | 0 | 0  | 4   | 3  | 1  | 1  | 0 | 1   | 32  |
| 937 Hastings   | 0 | 128 | 128 | 0 -- | -- | 4.2      | 0  | 10 | 0  | 82 | 0   | 0   | 0  | 0  | 0  | 0  | 0   | 0 | 10 | 11  | 21 | 0  | 10 | 0 | 21  | 165 |
| 938 Hastings   | 0 | 161 | 161 | 0 -- | -- | 4.2      | 0  | 2  | 1  | 1  | 1   | 3   | 2  | 1  | 3  | 0  | 3   | 0 | 0  | 3   | 2  | 1  | 1  | 0 | 1   | 25  |
| 939 Hastings   | 0 | 92  | 92  | 0 -- | -- | 4.2      | 0  | 7  | 0  | 0  | 7   | 361 | 0  | 12 | 0  | 0  | 0   | 0 | 0  | 4   | 7  | 0  | 0  | 0 | 7   | 405 |
| 940 Central Sq | 0 | 143 | 143 | 0 -- | -- | 4.2      | 0  | 0  | 0  | 1  | 6   | 0   | 1  | 0  | 6  | 0  | 3   | 0 | 3  | 2   | 4  | 0  | 0  | 0 | 0   | 26  |
| 941 Central Sq | 0 | 224 | 224 | 0 -- | -- | 4.2      | 21 | 0  | 0  | 0  | 0   | 0   | 0  | 0  | 0  | 0  | 0   | 0 | 0  | 42  | 10 | 0  | 0  | 0 | 0   | 73  |
| 942 Central Sq | 0 | 103 | 103 | 0 -- | -- | 4.2      | 0  | 0  | 0  | 40 | 0   | 203 | 0  | 0  | 20 | 0  | 0   | 0 | 0  | 20  | 11 | 0  | 0  | 0 | 0   | 294 |
| 943 Central Sq | 0 | 74  | 74  | 0 -- | -- | 4.2      | 0  | 6  | 1  | 2  | 3   | 7   | 4  | 2  | 7  | 0  | 6   | 0 | 0  | 8   | 3  | 1  | 2  | 0 | 3   | 55  |
| 944 Central Sq | 0 | 179 | 172 | 7 -- | -- | 4.2      | 0  | 7  | 0  | 3  | 34  | 0   | 3  | 0  | 10 | 0  | 0   | 0 | 7  | 101 | 10 | 0  | 0  | 0 | 0   | 175 |
| 945 Central Sq | 0 | 113 | 113 | 0 -- | -- | 4.2      | 0  | 0  | 0  | 0  | 0   | 0   | 0  | 0  | 0  | 0  | 0   | 0 | 0  | 581 | 0  | 0  | 0  | 0 | 0   | 581 |
| 946 Central Sq | 0 | 200 | 200 | 0 -- | -- | 4.2      | 0  | 0  | 0  | 22 | 0   | 0   | 0  | 0  | 0  | 0  | 0   | 0 | 0  | 0   | 0  | 5  | 0  | 0 | 0   | 27  |
| 947 Hastings   | 0 | 23  | 23  | 0 -- | -- | 4.2      | 0  | 1  | 0  | 1  | 1   | 2   | 1  | 1  | 2  | 0  | 2   | 0 | 0  | 1   | 1  | 0  | 1  | 0 | 1   | 15  |
| 948 Hastings   | 0 | 93  | 93  | 0 -- | -- | 4.2      | 0  | 1  | 0  | 0  | 1   | 1   | 1  | 0  | 1  | 0  | 1   | 0 | 0  | 3   | 1  | 0  | 0  | 0 | 1   | 11  |
| 949 Hastings   | 0 | 22  | 22  | 0 -- | -- | 4.2      | 0  | 0  | 0  | 0  | 0   | 0   | 0  | 0  | 0  | 0  | 0   | 0 | 0  | 0   | 0  | 0  | 0  | 0 | 0   | 0   |
| 950 Hastings   | 0 | 20  | 20  | 0 -- | -- | 4.2      | 0  | 0  | 0  | 0  | 0   | 0   | 0  | 0  | 0  | 0  | 0   | 0 | 0  | 0   | 0  | 0  | 0  | 0 | 0   | 0   |
| 951 Hastings   | 0 | 120 | 120 | 0 -- | -- | 4.2      | 0  | 7  | 2  | 3  | 4   | 9   | 6  | 3  | 9  | 1  | 8   | 0 | 0  | 8   | 5  | 2  | 4  | 0 | 4   | 75  |
| 952 Hastings   | 0 | 22  | 22  | 0 -- | -- | 4.2      | 0  | 0  | 0  | 0  | 0   | 0   | 0  | 0  | 0  | 0  | 0   | 0 | 0  | 0   | 0  | 0  | 0  | 0 | 0   | 0   |
| 953 Hastings   | 0 | 78  | 78  | 0 -- | -- | 4.2      | 0  | 0  | 0  | 0  | 0   | 8   | 0  | 0  | 0  | 0  | 1   | 0 | 0  | 0   | 0  | 0  | 0  | 0 | 0   | 9   |
| 954 Hastings   | 0 | 3   | 3   | 0 -- | -- | 4.2      | 0  | 0  | 0  | 0  | 0   | 0   | 0  | 0  | 0  | 0  | 0   | 0 | 0  | 0   | 0  | 0  | 0  | 0 | 0   | 0   |
| 955 West Mon   | 0 | 101 | 101 | 0 -- | -- | 4.2      | 0  | 0  | 0  | 0  | 0   | 0   | 0  | 0  | 0  | 0  | 0   | 0 | 0  | 0   | 0  | 0  | 0  | 0 | 0   | 0   |
| 956 Hastings   | 0 | 121 | 121 | 0 -- | -- | 4.2      | 0  | 8  | 4  | 4  | 4   | 13  | 8  | 4  | 13 | 0  | 13  | 0 | 0  | 13  | 8  | 4  | 4  | 0 | 4   | 104 |
| 957 Sullivan   | 0 | 57  | 57  | 0 -- | -- | 4.2      | 1  | 2  | 1  | 7  | 3   | 5   | 5  | 1  | 5  | 1  | 9   | 0 | 0  | 7   | 5  | 4  | 3  | 0 | 2   | 61  |
| 95             |   |     |     |      |    |          |    |    |    |    |     |     |    |    |    |    |     |   |    |     |    |    |    |   |     |     |



|                |   |     |     |      |    |     |    |    |    |    |    |    |    |    |     |   |     |   |    |    |     |    |   |    |     |     |
|----------------|---|-----|-----|------|----|-----|----|----|----|----|----|----|----|----|-----|---|-----|---|----|----|-----|----|---|----|-----|-----|
| 968 Sullivan   | 0 | 8   | 8   | 0 -- | -- | 4.2 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 0 | 0   | 0 | 0  | 0  | 0   | 0  | 0 | 0  | 0   |     |
| 969 Sullivan   | 0 | 35  | 35  | 0 -- | -- | 4.2 | 0  | 0  | 0  | 5  | 0  | 0  | 0  | 0  | 0   | 0 | 0   | 0 | 0  | 0  | 0   | 0  | 0 | 0  | 5   |     |
| 970 Sullivan   | 0 | 31  | 31  | 0 -- | -- | 4.2 | 48 | 0  | 0  | 12 | 0  | 0  | 0  | 0  | 0   | 0 | 0   | 0 | 0  | 0  | 2   | 0  | 0 | 0  | 62  |     |
| 971 Sullivan   | 0 | 16  | 16  | 0 -- | -- | 4.2 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 0 | 0   | 0 | 2  | 0  | 0   | 0  | 0 | 0  | 2   |     |
| 972 Sullivan   | 0 | 12  | 12  | 0 -- | -- | 4.2 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 0 | 0   | 0 | 0  | 0  | 0   | 0  | 0 | 0  | 0   |     |
| 973 Sullivan   | 0 | 50  | 50  | 0 -- | -- | 4.2 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 0 | 0   | 0 | 0  | 0  | 0   | 0  | 0 | 0  | 0   |     |
| 974 Sullivan   | 0 | 42  | 42  | 0 -- | -- | 4.2 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 0 | 0   | 0 | 8  | 8  | 0   | 0  | 0 | 0  | 16  |     |
| 975 Sullivan   | 0 | 104 | 104 | 0 -- | -- | 4.2 | 2  | 5  | 0  | 5  | 0  | 0  | 5  | 0  | 0   | 0 | 0   | 0 | 0  | 0  | 2   | 5  | 0 | 0  | 24  |     |
| 976 Sullivan   | 0 | 43  | 43  | 0 -- | -- | 4.2 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 0 | 0   | 0 | 0  | 1  | 0   | 0  | 0 | 3  | 4   |     |
| 977 Sullivan   | 0 | 90  | 90  | 0 -- | -- | 4.2 | 0  | 0  | 0  | 6  | 0  | 0  | 0  | 0  | 0   | 0 | 0   | 0 | 2  | 1  | 2   | 0  | 0 | 0  | 11  |     |
| 978 Sullivan   | 0 | 24  | 24  | 0 -- | -- | 4.2 | 3  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 0 | 0   | 0 | 0  | 0  | 0   | 0  | 0 | 14 | 17  |     |
| 979 Sullivan   | 0 | 40  | 40  | 0 -- | -- | 4.2 | 3  | 0  | 0  | 5  | 0  | 0  | 0  | 0  | 0   | 0 | 0   | 0 | 1  | 0  | 0   | 0  | 0 | 0  | 9   |     |
| 980 Sullivan   | 0 | 92  | 92  | 0 -- | -- | 4.2 | 0  | 1  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 0 | 0   | 0 | 0  | 0  | 3   | 0  | 3 | 3  | 10  |     |
| 981 Sullivan   | 0 | 70  | 70  | 0 -- | -- | 4.2 | 3  | 0  | 0  | 2  | 6  | 0  | 0  | 0  | 0   | 1 | 0   | 0 | 4  | 0  | 0   | 0  | 0 | 0  | 16  |     |
| 982 Sullivan   | 0 | 177 | 177 | 0 -- | -- | 4.2 | 0  | 1  | 0  | 3  | 0  | 3  | 0  | 0  | 1   | 0 | 0   | 0 | 3  | 0  | 1   | 0  | 0 | 0  | 12  |     |
| 983 Sullivan   | 0 | 8   | 8   | 0 -- | -- | 4.2 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 0 | 0   | 0 | 1  | 0  | 0   | 0  | 0 | 0  | 1   |     |
| 984 Sullivan   | 0 | 85  | 85  | 0 -- | -- | 4.2 | 9  | 1  | 0  | 11 | 0  | 0  | 4  | 0  | 0   | 0 | 0   | 0 | 47 | 0  | 13  | 0  | 0 | 4  | 89  |     |
| 985 Sullivan   | 0 | 24  | 24  | 0 -- | -- | 4.2 | 0  | 3  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 0 | 8   | 0 | 0  | 1  | 0   | 0  | 0 | 0  | 12  |     |
| 986 Sullivan   | 0 | 92  | 92  | 0 -- | -- | 4.2 | 0  | 2  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 0 | 2   | 0 | 0  | 0  | 7   | 0  | 0 | 0  | 11  |     |
| 987 Sullivan   | 0 | 30  | 30  | 0 -- | -- | 4.2 | 5  | 0  | 0  | 2  | 0  | 0  | 0  | 0  | 0   | 0 | 0   | 0 | 0  | 0  | 5   | 0  | 0 | 0  | 12  |     |
| 988 Sullivan   | 0 | 122 | 122 | 0 -- | -- | 4.2 | 0  | 2  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 0 | 27  | 0 | 0  | 0  | 4   | 0  | 0 | 2  | 35  |     |
| 989 Chittenanç | 0 | 125 | 125 | 0 -- | -- | 4.2 | 3  | 2  | 3  | 1  | 0  | 0  | 3  | 0  | 3   | 0 | 9   | 0 | 0  | 2  | 2   | 2  | 0 | 0  | 30  |     |
| 990 Chittenanç | 0 | 51  | 51  | 0 -- | -- | 4.2 | 0  | 1  | 0  | 2  | 0  | 0  | 0  | 0  | 5   | 0 | 0   | 0 | 0  | 0  | 0   | 0  | 0 | 0  | 8   |     |
| 991 Chittenanç | 0 | 33  | 33  | 0 -- | -- | 4.2 | 0  | 2  | 0  | 6  | 0  | 0  | 2  | 0  | 2   | 0 | 0   | 0 | 4  | 2  | 0   | 0  | 0 | 0  | 18  |     |
| 992 Chittenanç | 0 | 478 | 478 | 0 -- | -- | 4.2 | 0  | 1  | 35 | 10 | 0  | 97 | 1  | 0  | 3   | 0 | 0   | 0 | 33 | 12 | 8   | 0  | 0 | 7  | 207 |     |
| 993 Chittenanç | 0 | 147 | 147 | 0 -- | -- | 4.2 | 0  | 11 | 6  | 12 | 56 | 0  | 62 | 18 | 16  | 8 | 62  | 0 | 0  | 46 | 16  | 3  | 0 | 6  | 322 |     |
| 994 Sullivan   | 0 | 74  | 74  | 0 -- | -- | 4.2 | 0  | 4  | 15 | 4  | 3  | 0  | 4  | 7  | 0   | 1 | 183 | 0 | 0  | 47 | 4   | 0  | 7 | 0  | 11  | 290 |
| 995 Chittenanç | 0 | 325 | 318 | 7 -- | -- | 4.2 | 0  | 2  | 0  | 4  | 9  | 15 | 79 | 6  | 22  | 1 | 3   | 0 | 0  | 10 | 8   | 7  | 6 | 0  | 0   | 172 |
| 996 Chittenanç | 0 | 463 | 463 | 0 -- | -- | 4.2 | 1  | 8  | 0  | 1  | 0  | 15 | 10 | 0  | 35  | 0 | 45  | 9 | 0  | 1  | 454 | 15 | 9 | 0  | 0   | 603 |
| 997 Sullivan   | 0 | 118 | 118 | 0 -- | -- | 4.2 | 0  | 0  | 1  | 3  | 0  | 0  | 5  | 0  | 3   | 0 | 0   | 0 | 8  | 0  | 1   | 0  | 0 | 0  | 21  |     |
| 998 Sullivan   | 0 | 300 | 295 | 5 -- | -- | 4.2 | 1  | 2  | 0  | 6  | 9  | 12 | 0  | 0  | 1   | 1 | 0   | 0 | 3  | 1  | 1   | 4  | 0 | 0  | 41  |     |
| 999 Sullivan   | 0 | 8   | 8   | 0 -- | -- | 4.2 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 0 | 0   | 0 | 0  | 0  | 0   | 0  | 0 | 0  | 0   |     |
| 1000 Sullivan  | 0 | 32  | 32  | 0 -- | -- | 4.2 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 0 | 0   | 0 | 0  | 0  | 0   | 0  | 0 | 27 | 27  |     |
| 1001 Sullivan  | 0 | 31  | 31  | 0 -- | -- | 4.2 | 0  | 1  | 0  | 16 | 12 | 0  | 0  | 0  | 0   | 2 | 0   | 0 | 0  | 2  | 0   | 0  | 0 | 0  | 33  |     |
| 1002 Sullivan  | 0 | 31  | 31  | 0 -- | -- | 4.2 | 0  | 4  | 0  | 0  | 0  | 0  | 0  | 69 | 140 | 0 | 0   | 0 | 0  | 0  | 0   | 12 | 0 | 0  | 225 |     |
| 1003 Sullivan  | 0 | 63  | 63  | 0 -- | -- | 4.2 | 0  | 5  | 0  | 9  | 0  | 0  | 0  | 0  | 33  | 0 | 28  | 0 | 0  | 0  | 5   | 9  | 0 | 0  | 89  |     |
| 1004 Sullivan  | 0 | 35  | 35  | 0 -- | -- | 4.2 | 0  | 2  | 0  | 2  | 0  | 3  | 3  | 0  | 0   | 0 | 6   | 0 | 0  | 0  | 3   | 3  | 3 | 0  | 2   | 27  |
| 1005 Sullivan  | 0 | 21  | 21  | 0 -- | -- | 4.2 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 0 | 0   | 0 | 11 | 0  | 0   | 0  | 0 | 0  | 11  |     |
| 1006 Sullivan  | 0 | 99  | 99  | 0 -- | -- | 4.2 | 0  | 0  | 0  | 1  | 4  | 0  | 4  | 0  | 0   | 0 | 0   | 0 | 2  | 1  | 0   | 0  | 0 | 0  | 12  |     |
| 1007 Sullivan  | 0 | 69  | 69  | 0 -- | -- | 4.2 | 0  | 0  | 0  | 3  | 0  | 0  | 5  | 0  | 111 | 0 | 2   | 0 | 0  | 6  | 2   | 2  | 0 | 0  | 131 |     |
| 1008 Sullivan  | 0 | 35  | 35  | 0 -- | -- | 4.2 | 0  | 0  | 0  | 1  | 0  | 0  | 0  | 0  | 0   | 0 | 16  | 2 | 0  | 0  | 4   | 2  | 0 | 0  | 25  |     |
| 1009 Granby    | 0 | 44  | 44  | 0 -- | -- | 4.2 | 0  | 0  | 0  | 8  | 0  | 0  | 0  | 0  | 0   | 0 | 0   | 0 | 1  | 0  | 0   | 0  | 0 | 0  | 9   |     |
| 1010 Schroeppe | 0 | 57  | 57  | 0 -- | -- | 4.2 | 0  | 3  | 0  | 7  | 0  | 0  | 0  | 0  | 0   | 0 | 0   | 0 | 2  | 0  | 0   | 0  | 0 | 3  | 15  |     |
| 1011 Schroeppe | 0 | 136 | 136 | 0 -- | -- | 4.2 | 0  | 1  | 0  | 2  | 0  | 0  | 2  | 0  | 0   | 0 | 0   | 0 | 0  | 2  | 0   | 0  | 0 | 0  | 7   |     |
| 1012 Schroeppe | 0 | 78  | 78  | 0 -- | -- | 4.2 | 1  | 0  | 0  | 0  | 2  | 0  | 0  | 0  | 0   | 0 | 0   | 0 | 2  | 0  | 0   | 0  | 0 | 0  | 5   |     |
| 1013 Schroeppe | 0 | 29  | 29  | 0 -- | -- | 4.2 | 2  | 2  | 0  | 0  | 0  | 83 | 0  | 0  | 6   | 0 | 23  | 0 | 0  | 10 | 17  | 2  | 3 | 0  | 13  | 161 |
| 1014 Schroeppe | 0 | 40  | 40  | 0 -- | -- | 4.2 | 0  | 0  | 0  | 12 | 0  | 0  | 0  | 0  | 6   | 0 | 6   | 0 | 0  | 10 | 0   | 0  | 0 | 0  | 34  |     |
| 1015 Schroeppe | 0 | 34  | 34  | 0 -- | -- | 4.2 | 0  | 0  | 0  | 3  | 0  | 2  | 0  | 0  | 0   | 0 | 0   | 0 | 8  | 2  | 2   | 0  | 0 | 0  | 17  |     |
| 1016 Schroeppe | 0 | 17  | 17  | 0 -- | -- | 4.2 | 12 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 0 | 0   | 0 | 0  | 0  | 0   | 0  | 0 | 0  | 12  |     |
| 1017 Schroeppe | 0 | 67  | 67  | 0 -- | -- | 4.2 | 0  | 0  | 0  | 7  | 0  | 0  | 0  | 0  | 0   | 0 | 4   | 0 | 0  | 1  | 0   | 1  | 0 | 0  | 13  |     |
| 1018 Schroeppe | 0 | 30  | 30  | 0 -- | -- | 4.2 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 0 | 6   | 0 | 0  | 0  | 0   | 0  | 0 | 0  | 6   |     |
| 1019 Schroeppe | 0 | 34  | 34  | 0 -- | -- | 4.2 | 1  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 0 | 0   | 0 | 1  | 0  | 0   | 0  | 0 | 0  | 2   |     |
| 1020 Schroeppe | 0 | 42  | 42  | 0 -- | -- | 4.2 | 0  | 0  | 0  | 1  | 0  | 0  | 0  | 0  | 0   | 0 | 0   | 0 | 0  | 2  | 0   | 0  | 0 | 0  | 3   |     |
| 1021 Schroeppe | 0 | 66  | 66  | 0 -- | -- | 4.2 | 0  | 0  | 0  | 1  | 0  | 0  | 0  | 0  | 0   | 0 | 0   | 0 | 3  | 2  | 0   | 0  | 0 | 0  | 6   |     |
| 1022 Schroeppe | 0 | 15  | 15  | 0 -- | -- | 4.2 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 0 | 0   | 0 | 0  | 0  |     |    |   |    |     |     |



|                |   |     |     |      |    |     |   |    |   |    |    |   |   |    |    |   |    |   |    |    |    |    |   |   |     |    |
|----------------|---|-----|-----|------|----|-----|---|----|---|----|----|---|---|----|----|---|----|---|----|----|----|----|---|---|-----|----|
| 1029 Schroeppe | 0 | 199 | 199 | 0 -- | -- | 4.2 | 0 | 11 | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 1  | 0  | 0  | 0  | 0 | 0 | 12  |    |
| 1030 Schroeppe | 0 | 46  | 46  | 0 -- | -- | 4.2 | 0 | 0  | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 3  | 0  | 0  | 0  | 0 | 2 | 5   |    |
| 1031 Schroeppe | 0 | 55  | 55  | 0 -- | -- | 4.2 | 1 | 0  | 4 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 0  | 2  | 3  | 0  | 0 | 3 | 13  |    |
| 1032 Schroeppe | 0 | 261 | 261 | 0 -- | -- | 4.2 | 0 | 2  | 0 | 2  | 0  | 0 | 2 | 0  | 2  | 0 | 12 | 0 | 0  | 9  | 5  | 9  | 0 | 0 | 0   | 43 |
| 1033 Schroeppe | 0 | 98  | 98  | 0 -- | -- | 4.2 | 0 | 0  | 0 | 4  | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 4  | 0  | 0  | 0  | 0 | 0 | 8   |    |
| 1034 Schroeppe | 0 | 171 | 171 | 0 -- | -- | 4.2 | 0 | 0  | 0 | 0  | 0  | 0 | 2 | 0  | 0  | 0 | 2  | 0 | 0  | 0  | 0  | 6  | 0 | 0 | 0   | 10 |
| 1035 Schroeppe | 0 | 29  | 29  | 0 -- | -- | 4.2 | 0 | 0  | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 0  | 0  | 2  | 0  | 0 | 0 | 2   |    |
| 1036 Schroeppe | 0 | 60  | 60  | 0 -- | -- | 4.2 | 0 | 0  | 0 | 1  | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 1  | 0  | 0  | 0  | 0 | 0 | 2   |    |
| 1037 Schroeppe | 0 | 11  | 11  | 0 -- | -- | 4.2 | 0 | 4  | 0 | 0  | 0  | 0 | 0 | 21 | 21 | 0 | 0  | 0 | 0  | 0  | 0  | 0  | 0 | 0 | 46  |    |
| 1038 Schroeppe | 0 | 21  | 21  | 0 -- | -- | 4.2 | 0 | 0  | 0 | 3  | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 0  | 3  | 0  | 35 | 0 | 5 | 46  |    |
| 1039 Schroeppe | 0 | 39  | 39  | 0 -- | -- | 4.2 | 2 | 0  | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 11 | 0 | 0  | 0  | 0  | 0  | 0 | 2 | 15  |    |
| 1040 Hastings  | 0 | 69  | 69  | 0 -- | -- | 4.2 | 0 | 2  | 0 | 3  | 0  | 2 | 0 | 0  | 2  | 0 | 0  | 0 | 4  | 0  | 3  | 0  | 0 | 0 | 16  |    |
| 1041 Hastings  | 0 | 39  | 39  | 0 -- | -- | 4.2 | 0 | 0  | 0 | 0  | 6  | 0 | 0 | 0  | 0  | 1 | 15 | 0 | 0  | 8  | 0  | 0  | 0 | 4 | 34  |    |
| 1042 Hastings  | 0 | 184 | 184 | 0 -- | -- | 4.2 | 0 | 1  | 0 | 13 | 0  | 0 | 0 | 0  | 0  | 0 | 10 | 0 | 0  | 2  | 23 | 4  | 2 | 0 | 6   | 61 |
| 1043 Hastings  | 0 | 54  | 54  | 0 -- | -- | 4.2 | 0 | 1  | 0 | 13 | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 0  | 0  | 0  | 0  | 0 | 6 | 20  |    |
| 1044 Hastings  | 0 | 30  | 30  | 0 -- | -- | 4.2 | 0 | 0  | 0 | 0  | 0  | 0 | 0 | 0  | 7  | 0 | 0  | 0 | 0  | 0  | 0  | 0  | 0 | 0 | 7   |    |
| 1045 Hastings  | 0 | 12  | 12  | 0 -- | -- | 4.2 | 0 | 0  | 0 | 0  | 0  | 0 | 2 | 0  | 0  | 0 | 0  | 0 | 0  | 0  | 0  | 0  | 0 | 0 | 2   |    |
| 1046 Hastings  | 0 | 118 | 118 | 0 -- | -- | 4.2 | 0 | 0  | 1 | 3  | 0  | 0 | 0 | 0  | 0  | 0 | 1  | 0 | 0  | 2  | 1  | 1  | 0 | 0 | 9   |    |
| 1047 Hastings  | 0 | 35  | 35  | 0 -- | -- | 4.2 | 0 | 1  | 0 | 1  | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 0  | 4  | 3  | 0  | 0 | 0 | 9   |    |
| 1048 Hastings  | 0 | 18  | 18  | 0 -- | -- | 4.2 | 2 | 0  | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 0  | 0  | 0  | 0  | 0 | 0 | 2   |    |
| 1049 Hastings  | 0 | 27  | 27  | 0 -- | -- | 4.2 | 0 | 0  | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 2  | 0 | 0  | 0  | 4  | 2  | 4 | 0 | 12  |    |
| 1050 Hastings  | 0 | 33  | 33  | 0 -- | -- | 4.2 | 0 | 2  | 0 | 1  | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 0  | 0  | 0  | 0  | 0 | 0 | 3   |    |
| 1051 Hastings  | 0 | 71  | 71  | 0 -- | -- | 4.2 | 0 | 0  | 0 | 16 | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 2  | 0  | 12 | 0  | 0 | 0 | 30  |    |
| 1052 Hastings  | 0 | 111 | 111 | 0 -- | -- | 4.2 | 0 | 2  | 0 | 3  | 2  | 0 | 1 | 0  | 0  | 0 | 1  | 0 | 0  | 5  | 1  | 1  | 0 | 0 | 16  |    |
| 1053 Hastings  | 0 | 41  | 41  | 0 -- | -- | 4.2 | 0 | 0  | 0 | 2  | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 3  | 0  | 2  | 2  | 0 | 0 | 9   |    |
| 1054 Hastings  | 0 | 96  | 96  | 0 -- | -- | 4.2 | 0 | 2  | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 7  | 0 | 0  | 16 | 2  | 0  | 0 | 0 | 27  |    |
| 1055 Hastings  | 0 | 79  | 79  | 0 -- | -- | 4.2 | 0 | 0  | 0 | 0  | 6  | 0 | 2 | 7  | 0  | 1 | 0  | 0 | 0  | 1  | 0  | 2  | 0 | 3 | 22  |    |
| 1056 Hastings  | 0 | 108 | 108 | 0 -- | -- | 4.2 | 1 | 1  | 0 | 7  | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 0  | 1  | 0  | 0  | 0 | 3 | 13  |    |
| 1057 Hastings  | 0 | 78  | 78  | 0 -- | -- | 4.2 | 0 | 0  | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 0  | 0  | 19 | 0  | 0 | 0 | 19  |    |
| 1058 Hastings  | 0 | 104 | 104 | 0 -- | -- | 4.2 | 0 | 0  | 0 | 0  | 0  | 2 | 0 | 0  | 0  | 0 | 0  | 0 | 2  | 0  | 0  | 3  | 0 | 0 | 7   |    |
| 1059 Hastings  | 0 | 41  | 41  | 0 -- | -- | 4.2 | 0 | 1  | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 0  | 0  | 0  | 0  | 0 | 0 | 1   |    |
| 1060 Hastings  | 0 | 111 | 111 | 0 -- | -- | 4.2 | 0 | 0  | 0 | 7  | 0  | 0 | 0 | 0  | 2  | 0 | 0  | 0 | 3  | 0  | 2  | 2  | 0 | 5 | 21  |    |
| 1061 Hastings  | 0 | 64  | 64  | 0 -- | -- | 4.2 | 0 | 0  | 0 | 5  | 11 | 0 | 0 | 0  | 0  | 1 | 0  | 0 | 0  | 8  | 5  | 0  | 0 | 5 | 35  |    |
| 1062 Hastings  | 0 | 12  | 12  | 0 -- | -- | 4.2 | 0 | 0  | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 2  | 0 | 0  | 0  | 0  | 0  | 0 | 0 | 2   |    |
| 1063 Hastings  | 0 | 26  | 26  | 0 -- | -- | 4.2 | 0 | 0  | 0 | 13 | 5  | 0 | 0 | 0  | 0  | 2 | 0  | 0 | 0  | 0  | 0  | 0  | 0 | 0 | 20  |    |
| 1064 Hastings  | 0 | 24  | 24  | 0 -- | -- | 4.2 | 0 | 0  | 0 | 2  | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 0  | 0  | 0  | 0  | 0 | 0 | 2   |    |
| 1065 Hastings  | 0 | 58  | 58  | 0 -- | -- | 4.2 | 0 | 0  | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 1  | 0  | 0  | 0  | 0 | 0 | 1   |    |
| 1066 Hastings  | 0 | 29  | 29  | 0 -- | -- | 4.2 | 0 | 0  | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 0  | 0  | 0  | 0  | 0 | 0 | 0   |    |
| 1067 Hastings  | 0 | 89  | 89  | 0 -- | -- | 4.2 | 0 | 1  | 0 | 1  | 0  | 0 | 0 | 0  | 5  | 0 | 0  | 0 | 0  | 3  | 5  | 0  | 0 | 0 | 15  |    |
| 1068 West Mon  | 0 | 25  | 25  | 0 -- | -- | 4.2 | 0 | 0  | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 2  | 0  | 0  | 0  | 0 | 0 | 2   |    |
| 1069 West Mon  | 0 | 34  | 34  | 0 -- | -- | 4.2 | 0 | 0  | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 0  | 0  | 0  | 0  | 0 | 0 | 0   |    |
| 1070 West Mon  | 0 | 33  | 33  | 0 -- | -- | 4.2 | 0 | 0  | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 1  | 0  | 0  | 0  | 0 | 0 | 1   |    |
| 1071 West Mon  | 0 | 19  | 19  | 0 -- | -- | 4.2 | 0 | 0  | 0 | 0  | 0  | 0 | 0 | 0  | 3  | 0 | 7  | 0 | 0  | 0  | 0  | 0  | 0 | 0 | 10  |    |
| 1072 West Mon  | 0 | 59  | 59  | 0 -- | -- | 4.2 | 0 | 0  | 0 | 2  | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 1  | 0  | 0  | 0  | 0 | 0 | 3   |    |
| 1073 West Mon  | 0 | 25  | 25  | 0 -- | -- | 4.2 | 0 | 0  | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 0  | 0  | 0  | 0  | 0 | 0 | 0   |    |
| 1074 West Mon  | 0 | 96  | 96  | 0 -- | -- | 4.2 | 0 | 0  | 0 | 2  | 0  | 0 | 0 | 0  | 2  | 0 | 0  | 0 | 0  | 2  | 3  | 0  | 0 | 0 | 9   |    |
| 1075 West Mon  | 0 | 127 | 127 | 0 -- | -- | 4.2 | 0 | 0  | 0 | 4  | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 1  | 1  | 0  | 0  | 0 | 0 | 6   |    |
| 1076 West Mon  | 0 | 37  | 37  | 0 -- | -- | 4.2 | 0 | 0  | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 2  | 0  | 0  | 0  | 0 | 0 | 2   |    |
| 1077 West Mon  | 0 | 51  | 51  | 0 -- | -- | 4.2 | 0 | 0  | 0 | 15 | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 6  | 0  | 0  | 0  | 0 | 0 | 21  |    |
| 1078 West Mon  | 0 | 75  | 75  | 0 -- | -- | 4.2 | 0 | 1  | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 4  | 0 | 3  | 0  | 0  | 0  | 0 | 0 | 8   |    |
| 1079 West Mon  | 0 | 106 | 106 | 0 -- | -- | 4.2 | 0 | 0  | 0 | 2  | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 6  | 0  | 0  | 0  | 0 | 0 | 8   |    |
| 1080 West Mon  | 0 | 49  | 49  | 0 -- | -- | 4.2 | 0 | 0  | 0 | 0  | 0  | 0 | 0 | 13 | 0  | 0 | 0  | 0 | 9  | 3  | 0  | 0  | 0 | 0 | 25  |    |
| 1081 West Mon  | 0 | 80  | 80  | 0 -- | -- | 4.2 | 0 | 1  | 0 | 6  | 0  | 0 | 0 | 0  | 0  | 0 | 13 | 0 | 0  | 0  | 6  | 6  | 0 | 0 | 32  |    |
| 1082 West Mon  | 0 | 66  | 66  | 0 -- | -- | 4.2 | 0 | 3  | 0 | 2  | 0  | 0 | 3 | 0  | 0  | 0 | 0  | 0 | 0  | 0  | 0  | 2  | 0 | 0 | 10  |    |
| 1083 West Mon  | 0 | 69  | 69  | 0 -- | -- | 4.2 | 5 | 5  | 0 | 19 | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 27 | 0  | 0  | 19 | 0 | 0 | 75  |    |
| 1084 West Mon  | 0 | 59  | 59  | 0 -- | -- | 4.2 | 0 | 0  | 0 | 0  | 0  | 5 | 0 | 0  | 1  | 0 | 0  | 0 | 86 | 0  | 5  | 8  | 0 | 0 | 105 |    |
| 1085 Hastings  | 0 | 37  | 37  | 0 -- | -- | 4.2 | 2 | 0  | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 0  | 2  | 0  | 3  | 0 | 0 | 7   |    |
| 1086 West Mon  | 0 | 48  | 48  | 0 -- | -- | 4.2 | 0 | 3  | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 19 | 0 | 0  | 0  | 0  | 0  | 0 | 0 | 34  |    |
| 1087 West Mon  | 0 | 103 | 103 | 0 -- | -- | 4.2 | 0 | 0  | 0 | 3  | 0  | 0 | 1 | 0  | 0  | 0 | 0  | 1 | 14 | 0  | 2  | 0  | 0 | 0 | 22  |    |
| 1088 West Mon  | 0 | 82  | 82  | 0 -- | -- | 4.2 | 0 | 2  | 0 | 6  | 0  | 0 | 0 | 0  | 1  | 0 | 12 | 0 | 0  | 1  | 3  | 2  | 4 | 0 | 31  |    |
| 1089 West Mon  | 0 | 31  | 31  | 0 -- | -- | 4.2 | 0 | 0  | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 0  | 0  | 0  | 0  | 0 | 0 | 0   |    |



|                |   |      |    |         |    |     |   |     |     |    |      |      |    |      |       |   |     |   |   |      |     |      |     |    |       |      |
|----------------|---|------|----|---------|----|-----|---|-----|-----|----|------|------|----|------|-------|---|-----|---|---|------|-----|------|-----|----|-------|------|
| 1090 Schroeppe | 0 | 6    | 6  | 0 --    | -- | 4.2 | 0 | 0   | 0   | 0  | 0    | 0    | 0  | 0    | 14    | 0 | 0   | 0 | 0 | 0    | 0   | 0    | 0   | 0  | 14    |      |
| 1091 Schroeppe | 0 | 26   | 26 | 0 --    | -- | 4.2 | 0 | 0   | 0   | 0  | 0    | 0    | 0  | 0    | 0     | 0 | 20  | 0 | 0 | 7    | 4   | 0    | 0   | 0  | 31    |      |
| 1092 Schroeppe | 0 | 17   | 17 | 0 --    | -- | 4.2 | 0 | 7   | 0   | 0  | 9    | 0    | 0  | 0    | 0     | 2 | 0   | 0 | 0 | 0    | 0   | 1    | 0   | 3  | 22    |      |
| 1093 Schroeppe | 0 | 19   | 19 | 0 --    | -- | 4.2 | 4 | 0   | 0   | 0  | 0    | 0    | 0  | 0    | 0     | 0 | 0   | 0 | 0 | 0    | 0   | 0    | 0   | 0  | 4     |      |
| 1094 Schroeppe | 0 | 7    | 7  | 0 --    | -- | 4.2 | 0 | 0   | 0   | 0  | 0    | 0    | 0  | 0    | 0     | 0 | 0   | 0 | 0 | 0    | 0   | 0    | 0   | 0  | 0     |      |
| 1095 Schroeppe | 0 | 72   | 72 | 0 --    | -- | 4.2 | 1 | 1   | 0   | 2  | 0    | 0    | 0  | 1    | 0     | 0 | 1   | 0 | 0 | 0    | 0   | 0    | 0   | 0  | 6     |      |
| 1096 West Mon  | 0 | 17   | 17 | 0 --    | -- | 4.2 | 0 | 0   | 0   | 0  | 0    | 0    | 0  | 0    | 0     | 0 | 0   | 0 | 0 | 7    | 8   | 0    | 0   | 0  | 15    |      |
| 1097 West Mon  | 0 | 36   | 36 | 0 --    | -- | 4.2 | 0 | 4   | 0   | 0  | 0    | 0    | 0  | 0    | 0     | 0 | 0   | 0 | 0 | 0    | 0   | 0    | 0   | 0  | 4     |      |
| 1098 Hastings  | 0 | 17   | 17 | 0 --    | -- | 4.2 | 0 | 0   | 0   | 0  | 0    | 0    | 0  | 0    | 0     | 0 | 0   | 0 | 0 | 0    | 0   | 0    | 0   | 3  | 3     |      |
| 1099 Hastings  | 0 | 93   | 93 | 0 --    | -- | 4.2 | 0 | 3   | 0   | 0  | 0    | 0    | 0  | 0    | 0     | 0 | 0   | 0 | 4 | 3    | 1   | 0    | 0   | 0  | 11    |      |
| 1100 Sullivan  | 0 | 24   | 24 | 0 --    | -- | 4.2 | 0 | 0   | 0   | 0  | 0    | 0    | 0  | 0    | 0     | 0 | 0   | 0 | 0 | 0    | 0   | 0    | 0   | 0  | 0     |      |
| 1101 Sullivan  | 0 | 21   | 21 | 0 --    | -- | 4.2 | 0 | 0   | 0   | 0  | 0    | 0    | 0  | 0    | 0     | 0 | 0   | 0 | 0 | 0    | 0   | 0    | 0   | 0  | 0     |      |
| 8001 Geddes    | 0 | 0    | 0  | 0 --    | -- | 0   | 0 | 0   | 0   | 0  | 0    | 0    | 0  | 200  | 0     | 0 | 0   | 0 | 0 | 0    | 0   | 39   | 0   | 0  | 239   |      |
| 8002 Syracuse  | 0 | 0    | 0  | 0 --    | -- | 0   | 0 | 434 | 127 | 12 | 1003 | 0    | 50 | 0    | 14    | 0 | 128 | 0 | 0 | 3348 | 101 | 21   | 223 | 0  | 40    | 5501 |
| 8003 Onondaga  | 0 | 571  | 0  | 571 --  | -- | 0   | 0 | 0   | 0   | 0  | 0    | 1669 | 0  | 0    | 0     | 0 | 0   | 0 | 0 | 0    | 0   | 0    | 0   | 0  | 1669  |      |
| 8004 Onondaga  | 0 | 0    | 0  | 0 --    | -- | 0   | 0 | 13  | 0   | 0  | 0    | 0    | 0  | 25   | 1893  | 0 | 0   | 0 | 0 | 3    | 3   | 0    | 0   | 0  | 1937  |      |
| 8005 Syracuse  | 0 | 0    | 0  | 0 --    | -- | 3   | 0 | 0   | 0   | 0  | 0    | 0    | 0  | 0    | 1256  | 0 | 0   | 0 | 0 | 0    | 0   | 0    | 0   | 0  | 1256  |      |
| 8006 Syracuse  | 0 | 2507 | 0  | 2507 -- | -- | 3   | 0 | 14  | 0   | 0  | 0    | 416  | 0  | 0    | 0     | 0 | 40  | 0 | 0 | 1    | 6   | 14   | 0   | 0  | 491   |      |
| 8007 Syracuse  | 0 | 0    | 0  | 0 --    | -- | 20  | 0 | 0   | 0   | 0  | 0    | 0    | 0  | 0    | 0     | 0 | 0   | 0 | 0 | 7    | 0   | 0    | 0   | 0  | 7     |      |
| 8008 Syracuse  | 0 | 0    | 0  | 0 --    | -- | 20  | 0 | 0   | 0   | 0  | 0    | 0    | 0  | 2155 | 0     | 0 | 0   | 0 | 0 | 20   | 0   | 0    | 0   | 0  | 2175  |      |
| 8009 Syracuse  | 0 | 0    | 0  | 0 --    | -- | 20  | 0 | 0   | 0   | 0  | 0    | 0    | 0  | 0    | 0     | 0 | 0   | 0 | 0 | 996  | 0   | 0    | 0   | 0  | 996   |      |
| 8010 Dewitt    | 0 | 1289 | 5  | 1284 -- | -- | 2.5 | 0 | 0   | 0   | 0  | 101  | 651  | 0  | 0    | 0     | 0 | 0   | 0 | 0 | 0    | 0   | 0    | 0   | 0  | 752   |      |
| 8011 Syracuse  | 0 | 0    | 0  | 0 --    | -- | 15  | 0 | 70  | 77  | 0  | 55   | 0    | 14 | 50   | 10318 | 0 | 0   | 0 | 5 | 61   | 51  | 0    | 0   | 0  | 10700 |      |
| 8012 Syracuse  | 0 | 2766 | 0  | 2766 -- | -- | 15  | 1 | 407 | 0   | 4  | 0    | 4350 | 8  | 13   | 3     | 0 | 22  | 0 | 0 | 4    | 25  | 12   | 0   | 0  | 4850  |      |
| 8013 Syracuse  | 0 | 0    | 0  | 0 --    | -- | 15  | 0 | 0   | 0   | 0  | 0    | 0    | 0  | 0    | 0     | 0 | 0   | 0 | 0 | 0    | 0   | 0    | 0   | 0  | 0     |      |
| 8014 Syracuse  | 0 | 0    | 0  | 0 --    | -- | 15  | 0 | 26  | 0   | 0  | 0    | 0    | 6  | 0    | 3777  | 0 | 0   | 0 | 0 | 15   | 0   | 0    | 0   | 11 | 3835  |      |
| 8015 Syracuse  | 0 | 0    | 0  | 0 --    | -- | 0   | 0 | 0   | 0   | 0  | 0    | 0    | 0  | 0    | 0     | 0 | 0   | 0 | 0 | 59   | 0   | 0    | 0   | 0  | 59    |      |
| 8016 Dewitt    | 0 | 0    | 0  | 0 --    | -- | 4   | 0 | 97  | 0   | 0  | 0    | 0    | 0  | 0    | 0     | 0 | 0   | 0 | 0 | 49   | 0   | 1489 | 0   | 0  | 1635  |      |



| TAZ | CBD        | HH_Includ | HH  | HH_GQ | Population | Vehicles | Bicycle & F | Agriculture | Bus_Legal | Communic | Constructi | Eat_Drink | Education | FIRE | Government | Health | Hotels_Loc | Manufactu | Mining | NonClassif | Retail | Trad | Service | SocialS | Servi | Transport | Utilities | Wholesale | Total |
|-----|------------|-----------|-----|-------|------------|----------|-------------|-------------|-----------|----------|------------|-----------|-----------|------|------------|--------|------------|-----------|--------|------------|--------|------|---------|---------|-------|-----------|-----------|-----------|-------|
| 1   | Tully      | 0         | 237 | 237   | 0          | 547      | 443         | 3.114187    | 0         | 49       | 0          | 29        | 0         | 0    | 0          | 0      | 0          | 0         | 0      | 0          | 0      | 0    | 0       | 0       | 0     | 0         | 20        | 98        |       |
| 2   | Tully      | 0         | 346 | 346   | 0          | 745      | 613         | 3.856041    | 0         | 0        | 0          | 31        | 58        | 284  | 0          | 0      | 0          | 17        | 0      | 0          | 8      | 80   | 120     | 71      | 71    | 0         | 74        | 814       |       |
| 3   | Tully      | 0         | 148 | 148   | 0          | 382      | 281         | 5.339095    | 0         | 0        | 0          | 8         | 0         | 0    | 0          | 0      | 0          | 0         | 0      | 0          | 0      | 0    | 0       | 0       | 0     | 0         | 0         | 8         |       |
| 4   | Spafford   | 0         | 304 | 304   | 0          | 686      | 560         | 1.260512    | 0         | 0        | 0          | 0         | 0         | 0    | 0          | 0      | 0          | 0         | 0      | 0          | 0      | 14   | 7       | 0       | 0     | 0         | 0         | 21        |       |
| 5   | Tully      | 0         | 310 | 308   | 2          | 713      | 573         | 5.3391      | 1         | 13       | 0          | 0         | 25        | 80   | 6          | 0      | 7          | 0         | 0      | 0          | 0      | 2    | 3       | 33      | 16    | 0         | 0         | 186       |       |
| 6   | Fabius     | 0         | 135 | 135   | 0          | 324      | 265         | 0.56        | 1         | 7        | 0          | 5         | 0         | 218  | 0          | 0      | 0          | 0         | 4      | 0          | 0      | 0    | 10      | 0       | 0     | 0         | 0         | 245       |       |
| 7   | Fabius     | 0         | 167 | 167   | 0          | 420      | 343         | 0.56        | 150       | 2        | 0          | 8         | 6         | 0    | 2          | 0      | 16         | 0         | 24     | 0          | 0      | 0    | 47      | 5       | 2     | 0         | 0         | 262       |       |
| 8   | Tully      | 0         | 132 | 132   | 0          | 331      | 230         | 5.339119    | 0         | 35       | 0          | 17        | 0         | 0    | 0          | 0      | 0          | 0         | 0      | 0          | 0      | 0    | 0       | 0       | 0     | 0         | 0         | 52        |       |
| 9   | Fabius     | 0         | 208 | 208   | 0          | 518      | 440         | 3.36        | 3         | 3        | 0          | 0         | 0         | 0    | 0          | 13     | 0          | 50        | 0      | 0          | 0      | 3    | 0       | 0       | 0     | 0         | 0         | 72        |       |
| 10  | Fabius     | 0         | 268 | 268   | 0          | 654      | 545         | 3.36        | 0         | 0        | 0          | 20        | 0         | 0    | 0          | 0      | 0          | 20        | 0      | 0          | 0      | 0    | 0       | 0       | 0     | 0         | 0         | 40        |       |
| 11  | Otisco     | 0         | 123 | 123   | 0          | 295      | 247         | 2.045728    | 0         | 0        | 0          | 6         | 4         | 0    | 0          | 0      | 0          | 0         | 0      | 0          | 0      | 9    | 12      | 0       | 0     | 2         | 0         | 33        |       |
| 12  | Otisco     | 0         | 389 | 389   | 0          | 919      | 770         | 2.045728    | 0         | 16       | 0          | 0         | 23        | 0    | 0          | 0      | 0          | 0         | 0      | 0          | 0      | 7    | 0       | 0       | 12    | 0         | 0         | 58        |       |
| 13  | Otisco     | 0         | 158 | 158   | 0          | 404      | 332         | 2.045728    | 4         | 6        | 0          | 8         | 0         | 0    | 0          | 48     | 0          | 0         | 0      | 0          | 0      | 0    | 50      | 0       | 0     | 4         | 0         | 120       |       |
| 14  | Otisco     | 0         | 181 | 181   | 0          | 492      | 399         | 0           | 4         | 0        | 0          | 0         | 0         | 0    | 0          | 0      | 0          | 0         | 0      | 0          | 0      | 0    | 0       | 0       | 12    | 0         | 15        | 31        |       |
| 15  | Otisco     | 0         | 162 | 162   | 0          | 426      | 339         | 0           | 0         | 0        | 0          | 0         | 0         | 0    | 0          | 11     | 0          | 0         | 0      | 0          | 0      | 0    | 0       | 0       | 29    | 0         | 29        | 69        |       |
| 16  | Spafford   | 0         | 229 | 229   | 0          | 525      | 448         | 0.553661    | 0         | 0        | 0          | 21        | 55        | 0    | 0          | 0      | 0          | 0         | 34     | 0          | 0      | 0    | 0       | 0       | 0     | 0         | 0         | 110       |       |
| 17  | Spafford   | 0         | 205 | 205   | 0          | 463      | 390         | 0.553661    | 0         | 0        | 0          | 0         | 0         | 0    | 52         | 0      | 0          | 0         | 0      | 0          | 0      | 0    | 0       | 0       | 0     | 0         | 0         | 52        |       |
| 18  | Lafayette  | 0         | 108 | 108   | 0          | 209      | 171         | 0.815651    | 0         | 0        | 0          | 0         | 0         | 0    | 0          | 0      | 0          | 0         | 9      | 0          | 0      | 0    | 0       | 0       | 0     | 0         | 0         | 9         |       |
| 19  | Lafayette  | 0         | 361 | 361   | 0          | 885      | 701         | 0.815672    | 0         | 19       | 0          | 85        | 22        | 0    | 6          | 0      | 38         | 0         | 0      | 0          | 0      | 11   | 36      | 0       | 0     | 0         | 43        | 260       |       |
| 20  | Lafayette  | 0         | 169 | 164   | 5          | 443      | 326         | 1.973684    | 0         | 0        | 0          | 0         | 0         | 0    | 2          | 0      | 0          | 0         | 5      | 0          | 0      | 0    | 2       | 0       | 0     | 0         | 0         | 9         |       |
| 21  | Lafayette  | 0         | 207 | 207   | 0          | 506      | 397         | 1.973684    | 0         | 7        | 0          | 6         | 8         | 6    | 16         | 0      | 0          | 0         | 0      | 0          | 4      | 4    | 8       | 15      | 0     | 0         | 0         | 74        |       |
| 22  | Pompey     | 0         | 238 | 238   | 0          | 640      | 525         | 4.808743    | 0         | 0        | 0          | 14        | 0         | 0    | 0          | 0      | 0          | 0         | 0      | 0          | 0      | 0    | 14      | 0       | 0     | 0         | 0         | 28        |       |
| 23  | Pompey     | 0         | 252 | 252   | 0          | 649      | 522         | 4.808743    | 3         | 0        | 0          | 0         | 0         | 0    | 0          | 17     | 0          | 0         | 0      | 0          | 0      | 2    | 12      | 0       | 0     | 0         | 0         | 34        |       |
| 24  | Pompey     | 0         | 132 | 132   | 0          | 342      | 285         | 4.808743    | 15        | 12       | 0          | 0         | 0         | 0    | 0          | 0      | 0          | 0         | 0      | 0          | 0      | 0    | 0       | 0       | 0     | 0         | 0         | 27        |       |
| 25  | Skaneatele | 0         | 406 | 406   | 0          | 944      | 859         | 1.678236    | 16        | 12       | 0          | 10        | 0         | 0    | 7          | 0      | 0          | 22        | 0      | 0          | 0      | 12   | 16      | 0       | 38    | 0         | 0         | 133       |       |
| 26  | Skaneatele | 0         | 178 | 174   | 4          | 403      | 384         | 1.678236    | 0         | 0        | 0          | 12        | 0         | 0    | 0          | 0      | 8          | 350       | 0      | 0          | 0      | 50   | 0       | 0       | 0     | 0         | 24        | 444       |       |
| 27  | Lafayette  | 0         | 136 | 136   | 0          | 279      | 229         | 5.086391    | 0         | 0        | 0          | 0         | 0         | 0    | 0          | 0      | 0          | 0         | 0      | 0          | 0      | 0    | 0       | 0       | 0     | 0         | 78        | 78        |       |
| 28  | Lafayette  | 0         | 62  | 62    | 0          | 158      | 116         | 5.086385    | 0         | 2        | 1          | 1         | 1         | 3    | 2          | 1      | 3          | 0         | 3      | 0          | 0      | 3    | 2       | 1       | 1     | 0         | 1         | 25        |       |
| 29  | Lafayette  | 0         | 256 | 256   | 0          | 555      | 463         | 5.086385    | 0         | 85       | 0          | 0         | 80        | 0    | 0          | 0      | 0          | 0         | 0      | 0          | 0      | 40   | 0       | 0       | 131   | 0         | 0         | 336       |       |
| 30  | Pompey     | 0         | 133 | 133   | 0          | 301      | 262         | 0.831937    | 3         | 0        | 0          | 5         | 10        | 8    | 0          | 0      | 0          | 0         | 0      | 0          | 0      | 7    | 22      | 0       | 0     | 7         | 5         | 67        |       |
| 31  | Pompey     | 0         | 99  | 94    | 5          | 248      | 211         | 0.831937    | 0         | 11       | 0          | 3         | 2         | 2    | 0          | 0      | 0          | 0         | 0      | 0          | 0      | 2    | 7       | 0       | 0     | 2         | 0         | 29        |       |
| 32  | Pompey     | 0         | 90  | 90    | 0          | 212      | 180         | 0.831937    | 0         | 0        | 0          | 0         | 0         | 0    | 0          | 0      | 0          | 0         | 0      | 0          | 0      | 0    | 0       | 0       | 0     | 0         | 0         | 0         |       |
| 33  | Pompey     | 0         | 168 | 168   | 0          | 414      | 335         | 0.831937    | 0         | 0        | 0          | 4         | 2         | 2    | 0          | 0      | 0          | 0         | 0      | 0          | 0      | 2    | 11      | 0       | 0     | 3         | 1         | 25        |       |
| 34  | Pompey     | 0         | 69  | 69    | 0          | 144      | 123         | 0.831973    | 0         | 2        | 0          | 3         | 1         | 0    | 1          | 9      | 0          | 0         | 0      | 0          | 0      | 0    | 2       | 0       | 0     | 0         | 0         | 18        |       |
| 35  | Pompey     | 0         | 58  | 58    | 0          | 131      | 110         | 0.831973    | 0         | 0        | 0          | 0         | 0         | 0    | 0          | 0      | 0          | 0         | 0      | 0          | 0      | 21   | 0       | 0       | 0     | 0         | 0         | 21        |       |
| 36  | Marcellus  | 0         | 114 | 114   | 0          | 269      | 209         | 3.67893     | 0         | 0        | 0          | 0         | 0         | 0    | 0          | 0      | 0          | 0         | 0      | 0          | 0      | 33   | 0       | 0       | 0     | 0         | 0         | 33        |       |
| 37  | Marcellus  | 0         | 26  | 26    | 0          | 43       | 43          | 3.67893     | 0         | 0        | 0          | 0         | 0         | 0    | 0          | 0      | 0          | 0         | 0      | 0          | 0      | 0    | 0       | 0       | 0     | 0         | 0         | 0         |       |
| 38  | Marcellus  | 0         | 90  | 90    | 0          | 208      | 170         | 3.67893     | 6         | 15       | 0          | 17        | 30        | 0    | 0          | 0      | 0          | 0         | 0      | 0          | 0      | 12   | 26      | 0       | 0     | 0         | 0         | 106       |       |
| 39  | Lafayette  | 0         | 273 | 273   | 0          | 558      | 467         | 5.060974    | 0         | 0        | 0          | 0         | 0         | 0    | 0          | 101    | 0          | 0         | 0      | 0          | 0      | 0    | 26      | 0       | 58    | 0         | 0         | 185       |       |
| 40  | Skaneatele | 0         | 323 | 320   | 3          | 666      | 639         | 1.828157    | 0         | 54       | 32         | 2         | 97        | 0    | 75         | 0      | 3          | 0         | 0      | 0          | 0      | 109  | 7       | 121     | 7     | 27        | 0         | 534       |       |
| 41  | Skaneatele | 0         | 17  | 17    | 0          | 31       | 35          | 1.828157    | 0         | 9        | 0          | 0         | 0         | 0    | 0          | 0      | 0          | 0         | 0      | 0          | 0      | 2    | 0       | 0       | 0     | 0         | 0         | 11        |       |
| 42  | Skaneatele | 0         | 210 | 210   | 0          | 513      | 461         | 1.828157    | 2         | 6        | 0          | 4         | 0         | 0    | 0          | 0      | 0          | 0         | 0      | 0          | 0      | 0    | 5       | 0       | 0     | 0         | 9         | 26        |       |
| 43  | Onondaga   | 0         | 125 | 125   | 0          | 305      | 249         | 0.734388    | 17        | 0        | 0          | 0         | 0         | 0    | 0          | 0      | 0          | 0         | 0      | 0          | 0      | 0    | 27      | 0       | 0     | 0         | 0         | 44        |       |
| 44  | Onondaga   | 0         | 221 | 221   | 0          | 593      | 469         | 0.734388    | 10        | 0        | 0          | 0         | 42        | 0    | 0          | 0      | 0          | 0         | 0      | 0          | 0      | 0    | 0       | 0       | 0     | 0         | 0         | 52        |       |
| 45  | Lafayette  | 0         | 89  | 89    | 0          | 213      | 169         | 5.086334    | 0         | 0        | 0          | 10        | 0         | 0    | 0          | 0      | 0          | 0         | 0      | 0          | 0      | 0    | 9       | 0       | 0     | 0         | 0         | 19        |       |
| 46  | Lafayette  | 0         | 88  | 88    | 0          | 203      | 158         | 5.08639     | 0         | 0        | 0          | 0         | 0         | 0    | 0          | 0      | 0          | 0         | 0      | 0          | 0      | 7    | 0       | 0       | 0     | 0         | 0         | 7         |       |
| 47  | Pompey     | 0         | 87  | 87    | 0          | 204      | 176         | 5.021834    | 1         | 0        | 0          | 4         | 1         | 0    | 0          | 0      | 0          | 0         | 0      | 0          | 1      | 0    | 14      | 0       | 1     | 0         | 4         | 26        |       |
| 48  | Pompey     | 0         | 298 | 291   | 7          | 755      | 622         | 5.021834    | 0         | 11       | 0          | 5         | 4         | 0    | 0          | 0      | 6          | 0         | 0      | 0          | 2      | 1    | 13      | 0       | 2     | 0         | 4         | 48        |       |
| 49  | Onondaga   | 0         | 81  | 77    | 4          | 209      | 165         | 1.445571    | 0         | 0        | 0          | 0         | 0         | 155  | 0          | 41     | 0          | 0         | 0      | 0          | 0      | 0    | 0       | 0       | 0     | 0         | 0         | 196       |       |
| 50  | Onondaga   | 0         | 97  | 97    | 0          | 217      | 188         | 1.445571    | 0         | 15       | 0          | 2         | 4         | 140  | 0          | 0      | 0          | 0         | 0      | 0          | 0      | 10   | 0       | 0       | 0     | 0         | 0         | 171       |       |
| 51  | Onondaga   | 0         | 225 | 225   | 0          | 572      | 472         | 1.445571    | 0         | 0        | 32         | 0         | 0         | 0    | 0          | 0      | 0          | 0         | 0      | 0          | 0      | 0    | 0       | 0       | 0     | 0         | 0         | 32        |       |
| 52  | Onondaga   | 0         | 11  | 11    | 0          | 16       | 16          | 1.445571    | 10        | 0        | 0          | 0         | 0         | 0    | 0          | 0      | 0          | 0         | 0      | 0          | 0      | 0    | 0       | 0       | 0     | 0         | 0         | 10        |       |
| 53  | Marcellus  | 0         | 127 | 127   | 0          | 298      | 240         | 4.437394    | 0         | 0        | 0          | 12        | 0         | 0    | 0          | 0      | 0          | 0         | 0      | 0          | 0      | 0    | 5       | 0       | 0     | 0         | 0         | 17        |       |
| 54  | Marcellus  | 0         | 214 | 214   | 0          | 484      | 382         | 4.437394    | 4         | 0        | 0          | 0         | 13        | 0    | 0          | 0      | 0          | 0         | 0      | 0          | 0      | 2    | 1       | 0       | 0     | 0         | 0         | 20        |       |
| 55  | Marcellus  | 0         | 98  | 98    | 0          | 211      | 172         | 4.437394    | 5         | 0        | 0          | 0         | 0         | 0    | 0          | 0      | 0          | 0         | 0      | 0          | 0      | 0    | 8       | 0       | 0     | 0         | 0         | 13        |       |
| 56  | Lafayette  | 0         | 306 | 306   | 0          | 442      | 468         | 0           | 0         | 0        | 0          | 0         | 9         | 89   | 0          | 0      | 7          | 0         | 0      | 0          | 9      | 3    | 0       | 9       | 0     | 0         | 0         | 126       |       |
| 57  | Skaneatele | 0         | 239 | 239   | 0          | 607      | 471         | 6.632658    | 0         | 6        | 0          | 0         | 0         | 190  | 0          | 0      | 0          | 0         | 0      | 0          | 0      | 14   | 0       | 0       | 0     | 0         | 0         | 455       |       |
| 58  | Skaneatele | 0         | 183 | 183   | 0          | 443      | 342         | 6.632658    | 0         | 0        | 0          | 0         | 0         | 0    | 0          | 157    | 0          | 0         | 0      | 0          | 0      | 7    | 6       | 0       | 0     | 0         | 0         | 170       |       |
| 59  | Skaneatele | 0         | 489 | 489   | 0          | 927      | 754         | 6.632651    | 2         | 70       | 10         | 8         | 200       | 0    | 214        | 100    | 62         | 12        | 83     | 0          | 0      | 162  | 69      | 30      | 59    | 0         | 24        | 1105      |       |
| 60  | Onondaga   | 0         | 192 | 192   | 0          | 463      | 313         | 2.10391     | 0         | 0        | 0          | 0         | 0         | 0    | 0          | 51     | 0          | 0         | 0      | 0          | 0      | 0    | 0       | 0       | 0     | 0         | 0         | 51        |       |



|               |   |     |     |    |      |      |          |    |     |    |    |     |     |    |     |     |    |      |     |     |     |     |    |    |      |
|---------------|---|-----|-----|----|------|------|----------|----|-----|----|----|-----|-----|----|-----|-----|----|------|-----|-----|-----|-----|----|----|------|
| 61 Lafayette  | 0 | 316 | 316 | 0  | 574  | 463  | 0        | 4  | 0   | 0  | 19 | 0   | 0   | 0  | 0   | 0   | 0  | 0    | 0   | 83  | 0   | 0   | 0  | 0  | 106  |
| 62 Marcellus  | 0 | 129 | 129 | 0  | 287  | 205  | 1.796431 | 0  | 0   | 0  | 0  | 0   | 0   | 0  | 0   | 0   | 0  | 0    | 0   | 0   | 0   | 0   | 0  | 5  | 5    |
| 63 Onondaga   | 0 | 366 | 366 | 0  | 945  | 764  | 0        | 0  | 3   | 0  | 9  | 34  | 0   | 0  | 0   | 4   | 0  | 3    | 0   | 1   | 3   | 3   | 0  | 0  | 60   |
| 64 Skaneatele | 0 | 149 | 149 | 0  | 397  | 303  | 2.484472 | 0  | 0   | 0  | 0  | 0   | 0   | 2  | 0   | 0   | 0  | 0    | 0   | 14  | 0   | 0   | 0  | 0  | 16   |
| 65 Skaneatele | 0 | 374 | 374 | 0  | 812  | 625  | 2.484472 | 0  | 0   | 0  | 22 | 0   | 32  | 11 | 0   | 0   | 0  | 26   | 0   | 17  | 131 | 0   | 0  | 0  | 239  |
| 66 Skaneatele | 0 | 42  | 42  | 0  | 127  | 88   | 2.484472 | 0  | 0   | 0  | 0  | 0   | 0   | 0  | 0   | 0   | 0  | 0    | 0   | 3   | 0   | 0   | 0  | 0  | 3    |
| 67 Onondaga   | 0 | 195 | 195 | 0  | 537  | 326  | 2.499991 | 0  | 6   | 0  | 0  | 11  | 0   | 0  | 0   | 6   | 0  | 0    | 0   | 2   | 6   | 0   | 7  | 0  | 38   |
| 68 Pompey     | 0 | 198 | 198 | 0  | 449  | 344  | 0.94086  | 0  | 1   | 1  | 1  | 1   | 3   | 1  | 1   | 3   | 0  | 3    | 0   | 3   | 1   | 1   | 1  | 0  | 22   |
| 69 Pompey     | 0 | 316 | 310 | 6  | 633  | 526  | 0.94086  | 0  | 32  | 0  | 0  | 0   | 0   | 0  | 0   | 0   | 0  | 0    | 0   | 15  | 0   | 0   | 0  | 15 | 62   |
| 70 Pompey     | 0 | 323 | 323 | 0  | 980  | 720  | 0.94086  | 0  | 4   | 2  | 2  | 3   | 6   | 4  | 2   | 6   | 0  | 6    | 0   | 7   | 5   | 3   | 3  | 0  | 55   |
| 71 Lafayette  | 0 | 175 | 175 | 0  | 320  | 251  | 0.000542 | 0  | 0   | 0  | 0  | 0   | 0   | 0  | 0   | 23  | 0  | 0    | 0   | 0   | 0   | 0   | 0  | 0  | 23   |
| 72 Pompey     | 0 | 127 | 127 | 0  | 322  | 274  | 8.370044 | 0  | 1   | 1  | 1  | 1   | 3   | 1  | 1   | 3   | 0  | 3    | 0   | 3   | 1   | 1   | 1  | 0  | 22   |
| 73 Pompey     | 0 | 244 | 244 | 0  | 647  | 460  | 8.370044 | 0  | 0   | 0  | 18 | 0   | 0   | 0  | 0   | 0   | 0  | 0    | 0   | 0   | 0   | 0   | 0  | 10 | 28   |
| 74 Marcellus  | 0 | 429 | 429 | 0  | 853  | 697  | 7.08157  | 0  | 0   | 0  | 10 | 19  | 0   | 9  | 0   | 77  | 0  | 0    | 0   | 9   | 131 | 0   | 35 | 25 | 334  |
| 75 Onondaga   | 0 | 12  | 12  | 0  | 19   | 15   | 2.467097 | 0  | 0   | 0  | 0  | 0   | 0   | 0  | 0   | 0   | 0  | 76   | 0   | 15  | 0   | 0   | 0  | 0  | 91   |
| 76 Onondaga   | 0 | 250 | 250 | 0  | 671  | 444  | 1.716163 | 55 | 34  | 0  | 24 | 107 | 97  | 10 | 12  | 0   | 0  | 16   | 0   | 44  | 40  | 0   | 18 | 0  | 473  |
| 77 Onondaga   | 0 | 217 | 217 | 0  | 511  | 434  | 2.252645 | 0  | 0   | 0  | 0  | 0   | 0   | 0  | 10  | 0   | 0  | 28   | 0   | 0   | 0   | 0   | 0  | 0  | 38   |
| 78 Marcellus  | 0 | 149 | 149 | 0  | 338  | 237  | 2.252645 | 1  | 0   | 0  | 3  | 0   | 0   | 0  | 0   | 0   | 0  | 0    | 0   | 15  | 0   | 0   | 0  | 0  | 19   |
| 79 Marcellus  | 0 | 18  | 18  | 0  | 38   | 31   | 7.10492  | 0  | 3   | 1  | 1  | 1   | 3   | 3  | 1   | 4   | 0  | 3    | 0   | 4   | 1   | 1   | 1  | 0  | 28   |
| 80 Marcellus  | 0 | 16  | 16  | 0  | 36   | 27   | 7.10492  | 1  | 0   | 0  | 67 | 0   | 0   | 0  | 130 | 0   | 0  | 5    | 0   | 9   | 11  | 0   | 0  | 20 | 243  |
| 81 Onondaga   | 0 | 412 | 412 | 0  | 992  | 694  | 2.499972 | 0  | 3   | 0  | 0  | 0   | 0   | 0  | 0   | 5   | 0  | 0    | 0   | 49  | 5   | 0   | 0  | 0  | 62   |
| 82 Onondaga   | 0 | 302 | 302 | 0  | 780  | 552  | 0.063096 | 0  | 0   | 0  | 0  | 0   | 0   | 3  | 0   | 0   | 0  | 0    | 0   | 0   | 5   | 0   | 0  | 0  | 8    |
| 83 Skaneatele | 0 | 518 | 518 | 0  | 1246 | 957  | 2.066773 | 0  | 560 | 0  | 57 | 51  | 0   | 0  | 0   | 24  | 0  | 1137 | 0   | 27  | 0   | 0   | 51 | 0  | 1925 |
| 84 Manlius    | 0 | 16  | 16  | 0  | 48   | 30   | 0.00013  | 0  | 7   | 0  | 0  | 0   | 0   | 0  | 0   | 0   | 0  | 0    | 0   | 0   | 0   | 0   | 0  | 0  | 7    |
| 85 Manlius    | 0 | 153 | 153 | 0  | 451  | 302  | 0.00013  | 0  | 0   | 0  | 0  | 0   | 0   | 0  | 0   | 0   | 0  | 0    | 0   | 0   | 0   | 0   | 0  | 0  | 0    |
| 86 Manlius    | 0 | 351 | 351 | 0  | 803  | 630  | 0.00013  | 0  | 3   | 0  | 0  | 0   | 0   | 6  | 0   | 0   | 0  | 3    | 0   | 0   | 0   | 0   | 0  | 0  | 12   |
| 87 Manlius    | 0 | 223 | 223 | 0  | 514  | 381  | 0.00013  | 0  | 5   | 0  | 4  | 0   | 0   | 12 | 0   | 7   | 0  | 4    | 0   | 7   | 0   | 0   | 0  | 4  | 43   |
| 88 Marcellus  | 0 | 202 | 202 | 0  | 524  | 370  | 5.712801 | 0  | 2   | 0  | 0  | 41  | 135 | 7  | 454 | 0   | 0  | 5    | 0   | 15  | 0   | 0   | 0  | 0  | 659  |
| 89 Marcellus  | 0 | 208 | 208 | 0  | 429  | 345  | 5.712801 | 0  | 3   | 0  | 0  | 18  | 0   | 11 | 0   | 13  | 0  | 7    | 0   | 79  | 38  | 8   | 22 | 0  | 199  |
| 90 Dewitt     | 0 | 460 | 460 | 0  | 1023 | 713  | 0.506296 | 3  | 14  | 0  | 0  | 8   | 0   | 0  | 136 | 0   | 0  | 0    | 0   | 5   | 16  | 0   | 21 | 0  | 203  |
| 91 Dewitt     | 0 | 70  | 70  | 0  | 158  | 105  | 3.225817 | 0  | 0   | 0  | 0  | 0   | 0   | 0  | 124 | 0   | 0  | 0    | 0   | 0   | 0   | 0   | 0  | 0  | 124  |
| 92 Marcellus  | 0 | 162 | 162 | 0  | 369  | 261  | 11.57805 | 0  | 0   | 0  | 0  | 0   | 0   | 0  | 0   | 0   | 0  | 9    | 0   | 0   | 0   | 0   | 1  | 0  | 10   |
| 93 Marcellus  | 0 | 193 | 193 | 0  | 427  | 296  | 3.714994 | 0  | 1   | 0  | 0  | 0   | 1   | 1  | 0   | 0   | 0  | 0    | 0   | 4   | 0   | 0   | 0  | 0  | 8    |
| 94 Marcellus  | 0 | 156 | 156 | 0  | 352  | 248  | 3.714994 | 0  | 0   | 0  | 0  | 0   | 0   | 0  | 0   | 0   | 0  | 0    | 0   | 0   | 27  | 0   | 0  | 0  | 27   |
| 95 Onondaga   | 0 | 759 | 755 | 4  | 1600 | 1044 | 2.114484 | 0  | 265 | 0  | 0  | 0   | 0   | 5  | 0   | 0   | 0  | 0    | 0   | 29  | 32  | 0   | 0  | 0  | 331  |
| 96 Syracuse   | 0 | 755 | 755 | 0  | 1712 | 1190 | 3.185067 | 0  | 0   | 0  | 0  | 0   | 0   | 0  | 0   | 63  | 0  | 0    | 0   | 48  | 22  | 0   | 0  | 0  | 133  |
| 97 Manlius    | 0 | 81  | 81  | 0  | 127  | 103  | 2.920962 | 1  | 42  | 0  | 24 | 41  | 0   | 5  | 0   | 66  | 0  | 316  | 0   | 81  | 9   | 5   | 0  | 0  | 605  |
| 98 Manlius    | 0 | 625 | 625 | 0  | 1413 | 1050 | 2.920962 | 0  | 54  | 0  | 11 | 0   | 0   | 0  | 0   | 18  | 0  | 0    | 0   | 227 | 14  | 3   | 0  | 0  | 350  |
| 99 Syracuse   | 0 | 760 | 760 | 0  | 1298 | 807  | 0.630392 | 0  | 0   | 0  | 0  | 0   | 0   | 0  | 0   | 0   | 0  | 0    | 101 | 24  | 0   | 0   | 0  | 0  | 125  |
| 100 Syracuse  | 0 | 320 | 310 | 10 | 666  | 364  | 3.971682 | 0  | 0   | 0  | 0  | 0   | 0   | 4  | 0   | 5   | 0  | 0    | 0   | 2   | 9   | 0   | 0  | 0  | 20   |
| 101 Onondaga  | 0 | 463 | 456 | 7  | 1356 | 928  | 0.043631 | 0  | 5   | 0  | 14 | 0   | 17  | 41 | 0   | 6   | 0  | 0    | 0   | 33  | 53  | 0   | 21 | 0  | 190  |
| 102 Syracuse  | 0 | 351 | 325 | 26 | 837  | 566  | 5.971782 | 0  | 22  | 0  | 0  | 0   | 182 | 12 | 0   | 0   | 0  | 0    | 14  | 28  | 20  | 0   | 0  | 0  | 278  |
| 103 Marcellus | 0 | 312 | 312 | 0  | 641  | 455  | 0.700534 | 0  | 4   | 1  | 2  | 2   | 5   | 3  | 2   | 5   | 0  | 4    | 0   | 6   | 2   | 1   | 2  | 0  | 41   |
| 104 Marcellus | 0 | 192 | 192 | 0  | 406  | 283  | 0.700534 | 0  | 4   | 0  | 5  | 0   | 0   | 0  | 0   | 0   | 0  | 4    | 0   | 18  | 0   | 0   | 0  | 0  | 35   |
| 105 Manlius   | 0 | 721 | 720 | 1  | 1665 | 1318 | 1.257862 | 1  | 36  | 0  | 15 | 7   | 306 | 16 | 0   | 6   | 0  | 18   | 0   | 9   | 9   | 51  | 4  | 0  | 487  |
| 106 Dewitt    | 0 | 291 | 285 | 6  | 564  | 419  | 3.141876 | 0  | 26  | 21 | 0  | 58  | 0   | 10 | 0   | 33  | 0  | 19   | 0   | 8   | 7   | 11  | 0  | 0  | 204  |
| 107 Syracuse  | 0 | 33  | 33  | 0  | 61   | 34   | 1.730095 | 0  | 0   | 0  | 0  | 0   | 0   | 4  | 0   | 0   | 22 | 0    | 0   | 3   | 8   | 0   | 0  | 0  | 37   |
| 108 Syracuse  | 0 | 40  | 40  | 0  | 101  | 45   | 1.730095 | 0  | 10  | 0  | 0  | 33  | 0   | 0  | 0   | 0   | 0  | 0    | 0   | 13  | 0   | 0   | 0  | 0  | 56   |
| 109 Syracuse  | 0 | 289 | 289 | 0  | 667  | 350  | 1.730095 | 0  | 0   | 0  | 0  | 21  | 0   | 0  | 0   | 0   | 0  | 0    | 0   | 40  | 0   | 0   | 0  | 0  | 61   |
| 110 Syracuse  | 0 | 49  | 49  | 0  | 106  | 57   | 1.730095 | 0  | 0   | 0  | 0  | 5   | 0   | 0  | 0   | 0   | 0  | 0    | 0   | 0   | 0   | 0   | 0  | 0  | 5    |
| 111 Onondaga  | 0 | 342 | 341 | 1  | 734  | 489  | 0.001515 | 0  | 0   | 94 | 79 | 0   | 34  | 0  | 61  | 24  | 0  | 15   | 0   | 24  | 24  | 109 | 0  | 0  | 492  |
| 112 Onondaga  | 0 | 221 | 221 | 0  | 512  | 352  | 0.001515 | 0  | 0   | 1  | 0  | 0   | 0   | 0  | 0   | 0   | 0  | 0    | 0   | 5   | 0   | 0   | 0  | 0  | 6    |
| 113 Onondaga  | 0 | 15  | 15  | 0  | 35   | 21   | 2.167082 | 0  | 0   | 0  | 6  | 0   | 0   | 0  | 0   | 81  | 0  | 0    | 0   | 0   | 4   | 0   | 0  | 0  | 91   |
| 114 Dewitt    | 0 | 48  | 48  | 0  | 83   | 77   | 0        | 0  | 0   | 0  | 0  | 0   | 0   | 0  | 0   | 0   | 0  | 0    | 190 | 0   | 0   | 0   | 0  | 0  | 190  |
| 115 Manlius   | 0 | 791 | 791 | 0  | 2038 | 1500 | 0        | 0  | 17  | 0  | 10 | 28  | 0   | 25 | 0   | 13  | 0  | 71   | 0   | 21  | 7   | 0   | 0  | 0  | 192  |
| 116 Onondaga  | 0 | 701 | 691 | 10 | 1619 | 1175 | 0        | 2  | 7   | 0  | 0  | 0   | 0   | 0  | 0   | 0   | 0  | 36   | 0   | 6   | 6   | 10  | 0  | 0  | 67   |
| 117 Onondaga  | 0 | 663 | 663 | 0  | 1893 | 1303 | 0.41189  | 0  | 0   | 0  | 0  | 15  | 0   | 0  | 101 | 0   | 0  | 0    | 0   | 5   | 0   | 0   | 0  | 8  | 129  |
| 118 Syracuse  | 0 | 693 | 687 | 6  | 859  | 561  | 4.542517 | 4  | 82  | 0  | 11 | 74  | 0   | 34 | 0   | 259 | 0  | 0    | 34  | 68  | 9   | 43  | 0  | 0  | 677  |
| 119 Syracuse  | 0 | 680 | 680 | 0  | 1479 | 572  | 8.817335 | 0  | 61  | 12 | 20 | 105 | 91  | 0  | 0   | 28  | 2  | 0    | 0   | 52  | 32  | 10  | 0  | 0  | 419  |
| 120 Manlius   | 0 | 376 | 376 | 0  | 590  | 450  | 0        | 0  | 0   | 0  | 0  | 0   | 0   | 0  | 0   | 0   | 0  | 0    | 0   | 9   | 86  | 0   | 0  | 0  | 95   |
| 121 Syracuse  | 0 | 292 | 292 | 0  | 825  | 312  | 2.334158 | 0  | 29  | 0  | 13 | 25  | 0   | 15 | 0   | 0   | 0  | 0    | 0   | 6   | 11  | 3   | 0  | 0  | 102  |



|              |   |     |     |    |      |     |          |    |     |     |     |    |     |    |     |     |    |     |   |     |      |     |    |     |    |     |      |
|--------------|---|-----|-----|----|------|-----|----------|----|-----|-----|-----|----|-----|----|-----|-----|----|-----|---|-----|------|-----|----|-----|----|-----|------|
| 122 Syracuse | 0 | 126 | 126 | 0  | 285  | 153 | 2.175182 | 0  | 0   | 0   | 0   | 0  | 46  | 0  | 0   | 0   | 0  | 0   | 0 | 0   | 14   | 0   | 0  | 4   | 64 |     |      |
| 123 Syracuse | 0 | 312 | 312 | 0  | 723  | 379 | 2.175182 | 0  | 5   | 1   | 2   | 3  | 6   | 4  | 2   | 6   | 0  | 5   | 0 | 7   | 3    | 1   | 2  | 0   | 3  | 50  |      |
| 124 Onondaga | 0 | 80  | 80  | 0  | 176  | 136 | 2.031805 | 1  | 0   | 156 | 0   | 0  | 20  | 25 | 130 | 5   | 0  | 5   | 0 | 7   | 7    | 7   | 0  | 0   | 0  | 363 |      |
| 125 Manlius  | 0 | 386 | 386 | 0  | 1087 | 887 | 7.783208 | 0  | 0   | 0   | 0   | 0  | 0   | 0  | 0   | 0   | 0  | 0   | 0 | 0   | 0    | 0   | 0  | 0   | 0  | 0   |      |
| 126 Manlius  | 0 | 154 | 154 | 0  | 244  | 213 | 7.783208 | 3  | 112 | 0   | 8   | 65 | 0   | 35 | 65  | 10  | 0  | 25  | 0 | 0   | 1127 | 113 | 17 | 0   | 0  | 10  | 1590 |
| 127 Manlius  | 0 | 369 | 369 | 0  | 531  | 413 | 7.706893 | 0  | 0   | 0   | 0   | 0  | 0   | 0  | 0   | 52  | 0  | 0   | 0 | 0   | 0    | 0   | 0  | 0   | 0  | 52  |      |
| 128 Syracuse | 0 | 264 | 257 | 7  | 449  | 177 | 0.064559 | 0  | 31  | 0   | 0   | 84 | 0   | 27 | 0   | 0   | 0  | 0   | 0 | 0   | 144  | 0   | 0  | 0   | 0  | 286 |      |
| 129 Dewitt   | 0 | 2   | 2   | 0  | 3    | 3   | 0.090649 | 0  | 0   | 0   | 27  | 0  | 0   | 0  | 0   | 0   | 0  | 0   | 0 | 0   | 36   | 12  | 0  | 0   | 0  | 75  |      |
| 130 Syracuse | 0 | 116 | 116 | 0  | 306  | 145 | 2.664003 | 0  | 0   | 0   | 0   | 0  | 0   | 0  | 0   | 0   | 0  | 0   | 0 | 13  | 6    | 0   | 0  | 0   | 0  | 19  |      |
| 131 Syracuse | 0 | 86  | 86  | 0  | 220  | 110 | 0.057264 | 0  | 0   | 0   | 0   | 7  | 0   | 0  | 0   | 0   | 0  | 0   | 0 | 0   | 0    | 0   | 0  | 0   | 0  | 7   |      |
| 132 Syracuse | 0 | 89  | 89  | 0  | 220  | 107 | 0.057264 | 0  | 0   | 0   | 0   | 0  | 0   | 0  | 0   | 0   | 0  | 0   | 0 | 0   | 0    | 0   | 0  | 0   | 0  | 0   |      |
| 133 Onondaga | 0 | 284 | 270 | 14 | 447  | 342 | 0.037051 | 0  | 6   | 0   | 0   | 19 | 111 | 8  | 0   | 0   | 0  | 0   | 0 | 0   | 4    | 0   | 0  | 0   | 0  | 148 |      |
| 134 Manlius  | 0 | 267 | 267 | 0  | 534  | 419 | 6.602251 | 0  | 14  | 0   | 18  | 39 | 0   | 60 | 0   | 0   | 0  | 43  | 0 | 8   | 44   | 8   | 85 | 100 | 0  | 419 |      |
| 135 Manlius  | 0 | 186 | 186 | 0  | 466  | 342 | 6.602251 | 0  | 0   | 0   | 0   | 0  | 0   | 2  | 0   | 0   | 0  | 4   | 0 | 0   | 3    | 0   | 0  | 0   | 0  | 9   |      |
| 136 Manlius  | 0 | 209 | 209 | 0  | 436  | 329 | 0.008753 | 0  | 4   | 0   | 2   | 2  | 4   | 2  | 2   | 4   | 0  | 2   | 0 | 0   | 6    | 2   | 2  | 2   | 0  | 2   | 36   |
| 137 Manlius  | 0 | 318 | 318 | 0  | 600  | 430 | 4.091375 | 0  | 0   | 0   | 80  | 0  | 0   | 64 | 0   | 0   | 0  | 0   | 0 | 0   | 38   | 86  | 60 | 0   | 0  | 328 |      |
| 138 Onondaga | 0 | 400 | 400 | 0  | 1060 | 799 | 0        | 2  | 1   | 0   | 2   | 0  | 0   | 0  | 19  | 0   | 0  | 0   | 0 | 0   | 0    | 0   | 0  | 0   | 0  | 1   | 25   |
| 139 Onondaga | 0 | 124 | 124 | 0  | 297  | 244 | 0        | 0  | 0   | 0   | 1   | 0  | 0   | 0  | 18  | 0   | 0  | 0   | 0 | 0   | 0    | 0   | 0  | 0   | 0  | 1   | 20   |
| 140 Onondaga | 0 | 0   | 0   | 0  | 0    | 0   | 0        | 0  | 0   | 0   | 0   | 0  | 0   | 0  | 76  | 0   | 0  | 0   | 0 | 0   | 0    | 0   | 0  | 0   | 0  | 76  |      |
| 141 Onondaga | 0 | 82  | 82  | 0  | 132  | 117 | 0        | 1  | 8   | 1   | 2   | 3  | 7   | 6  | 2   | 9   | 1  | 6   | 0 | 0   | 11   | 3   | 2  | 2   | 1  | 3   | 68   |
| 142 Onondaga | 0 | 482 | 476 | 6  | 762  | 667 | 0.007274 | 0  | 0   | 0   | 0   | 0  | 0   | 11 | 77  | 0   | 0  | 0   | 0 | 9   | 0    | 6   | 0  | 0   | 0  | 103 |      |
| 143 Syracuse | 0 | 95  | 94  | 1  | 269  | 142 | 2.445112 | 0  | 0   | 0   | 0   | 0  | 0   | 0  | 0   | 0   | 0  | 0   | 0 | 13  | 0    | 0   | 0  | 0   | 0  | 13  |      |
| 144 Syracuse | 0 | 211 | 197 | 14 | 541  | 306 | 2.445112 | 0  | 0   | 0   | 1   | 0  | 50  | 0  | 0   | 0   | 5  | 0   | 0 | 0   | 6    | 0   | 0  | 0   | 0  | 62  |      |
| 145 Syracuse | 0 | 343 | 343 | 0  | 1004 | 452 | 0.463757 | 0  | 0   | 0   | 0   | 0  | 0   | 0  | 0   | 0   | 0  | 0   | 0 | 0   | 0    | 0   | 0  | 0   | 0  | 0   |      |
| 146 Syracuse | 0 | 24  | 24  | 0  | 46   | 23  | 4.133406 | 0  | 7   | 4   | 1   | 85 | 1   | 0  | 1   | 180 | 10 | 11  | 0 | 0   | 0    | 1   | 38 | 0   | 0  | 3   | 342  |
| 147 Syracuse | 0 | 15  | 15  | 0  | 43   | 17  | 4.133406 | 2  | 111 | 2   | 270 | 2  | 62  | 42 | 4   | 5   | 1  | 258 | 0 | 0   | 57   | 45  | 4  | 47  | 4  | 448 | 1364 |
| 148 Syracuse | 0 | 832 | 832 | 0  | 1462 | 900 | 4.133406 | 0  | 9   | 0   | 20  | 0  | 14  | 4  | 0   | 1   | 0  | 30  | 0 | 0   | 3    | 4   | 0  | 4   | 0  | 3   | 92   |
| 149 Syracuse | 0 | 276 | 276 | 0  | 730  | 414 | 2.21963  | 0  | 11  | 0   | 7   | 0  | 0   | 17 | 0   | 0   | 0  | 0   | 0 | 10  | 0    | 10  | 0  | 0   | 0  | 55  |      |
| 150 Syracuse | 0 | 468 | 463 | 5  | 1391 | 421 | 0.010898 | 0  | 0   | 0   | 0   | 0  | 0   | 0  | 0   | 0   | 0  | 0   | 0 | 13  | 6    | 0   | 0  | 0   | 0  | 19  |      |
| 151 Syracuse | 0 | 197 | 190 | 7  | 479  | 272 | 3.68821  | 0  | 0   | 0   | 0   | 0  | 218 | 0  | 0   | 0   | 0  | 0   | 0 | 0   | 0    | 0   | 11 | 0   | 0  | 229 |      |
| 152 Onondaga | 0 | 10  | 10  | 0  | 20   | 11  | 0        | 0  | 0   | 0   | 0   | 0  | 0   | 0  | 0   | 0   | 0  | 0   | 0 | 0   | 0    | 0   | 0  | 0   | 0  | 0   |      |
| 153 Onondaga | 0 | 15  | 15  | 0  | 33   | 26  | 0        | 12 | 21  | 0   | 24  | 12 | 0   | 0  | 0   | 57  | 0  | 0   | 0 | 0   | 19   | 0   | 0  | 17  | 0  | 0   | 162  |
| 154 Manlius  | 0 | 84  | 84  | 0  | 148  | 137 | 2.639621 | 0  | 18  | 0   | 0   | 0  | 0   | 0  | 0   | 0   | 0  | 0   | 0 | 0   | 0    | 0   | 0  | 0   | 0  | 0   | 18   |
| 155 Syracuse | 0 | 299 | 294 | 5  | 597  | 487 | 11.54331 | 0  | 4   | 5   | 0   | 4  | 4   | 0  | 0   | 3   | 1  | 5   | 0 | 0   | 0    | 0   | 0  | 0   | 0  | 0   | 26   |
| 156 Dewitt   | 0 | 460 | 460 | 0  | 1071 | 677 | 0.232648 | 0  | 0   | 0   | 0   | 0  | 0   | 11 | 0   | 171 | 0  | 0   | 0 | 0   | 0    | 94  | 0  | 0   | 0  | 9   | 285  |
| 157 Syracuse | 0 | 157 | 157 | 0  | 455  | 197 | 0.079881 | 0  | 6   | 0   | 0   | 13 | 98  | 0  | 0   | 0   | 0  | 0   | 0 | 1   | 0    | 0   | 0  | 0   | 0  | 0   | 118  |
| 158 Syracuse | 0 | 269 | 265 | 4  | 807  | 240 | 1.844171 | 0  | 2   | 0   | 0   | 16 | 98  | 0  | 0   | 0   | 0  | 0   | 0 | 15  | 8    | 0   | 0  | 0   | 5  | 144 |      |
| 159 Dewitt   | 0 | 241 | 241 | 0  | 621  | 521 | 0.855222 | 0  | 25  | 0   | 17  | 0  | 0   | 22 | 0   | 25  | 0  | 17  | 0 | 0   | 0    | 0   | 0  | 0   | 0  | 0   | 106  |
| 160 Dewitt   | 0 | 321 | 321 | 0  | 821  | 701 | 0.855222 | 0  | 328 | 0   | 0   | 0  | 22  | 38 | 0   | 35  | 4  | 0   | 0 | 15  | 9    | 5   | 0  | 0   | 4  | 460 |      |
| 161 Dewitt   | 0 | 241 | 241 | 0  | 532  | 380 | 2.98412  | 0  | 0   | 0   | 9   | 29 | 65  | 6  | 7   | 0   | 0  | 0   | 0 | 0   | 9    | 0   | 0  | 0   | 4  | 129 |      |
| 162 Dewitt   | 0 | 59  | 59  | 0  | 147  | 99  | 2.98412  | 0  | 20  | 0   | 0   | 20 | 0   | 0  | 0   | 0   | 0  | 0   | 0 | 237 | 12   | 0   | 33 | 0   | 0  | 322 |      |
| 163 Onondaga | 0 | 511 | 511 | 0  | 738  | 519 | 0.027085 | 0  | 0   | 0   | 0   | 0  | 0   | 0  | 0   | 0   | 0  | 0   | 0 | 0   | 69   | 0   | 0  | 0   | 0  | 69  |      |
| 164 Onondaga | 0 | 383 | 383 | 0  | 1008 | 618 | 0.006435 | 1  | 0   | 0   | 33  | 2  | 73  | 2  | 0   | 0   | 0  | 45  | 0 | 0   | 3    | 2   | 0  | 0   | 0  | 0   | 161  |
| 165 Onondaga | 0 | 120 | 120 | 0  | 262  | 164 | 0.006435 | 0  | 0   | 0   | 0   | 0  |     |    |     |     |    |     |   |     |      |     |    |     |    |     |      |



|                 |   |     |     |    |      |      |          |   |    |    |    |     |     |     |    |     |    |     |   |    |     |    |    |    |     |      |
|-----------------|---|-----|-----|----|------|------|----------|---|----|----|----|-----|-----|-----|----|-----|----|-----|---|----|-----|----|----|----|-----|------|
| 183 Syracuse    | 0 | 33  | 33  | 0  | 98   | 34   | 10.13334 | 0 | 0  | 0  | 0  | 0   | 16  | 0   | 0  | 0   | 0  | 0   | 0 | 0  | 3   | 0  | 0  | 0  | 0   | 19   |
| 184 Syracuse    | 0 | 62  | 61  | 1  | 185  | 63   | 10.13334 | 0 | 0  | 0  | 0  | 0   | 0   | 0   | 0  | 0   | 0  | 0   | 0 | 0  | 0   | 36 | 0  | 0  | 36  |      |
| 185 Dewitt      | 0 | 278 | 269 | 9  | 638  | 438  | 0.014031 | 0 | 2  | 0  | 0  | 0   | 19  | 14  | 0  | 0   | 0  | 0   | 0 | 13 | 8   | 27 | 0  | 0  | 83  |      |
| 186 Syracuse    | 0 | 24  | 24  | 0  | 54   | 44   | 2.274165 | 0 | 0  | 0  | 0  | 0   | 144 | 0   | 0  | 0   | 0  | 0   | 0 | 0  | 0   | 0  | 0  | 0  | 144 |      |
| 187 Manlius     | 0 | 654 | 649 | 5  | 1205 | 965  | 2.548554 | 0 | 88 | 0  | 0  | 75  | 139 | 160 | 0  | 32  | 0  | 46  | 0 | 0  | 170 | 0  | 0  | 0  | 8   | 718  |
| 188 Manlius     | 0 | 112 | 112 | 0  | 301  | 228  | 2.548554 | 0 | 0  | 0  | 0  | 0   | 0   | 0   | 0  | 0   | 0  | 0   | 0 | 0  | 26  | 0  | 0  | 0  | 26  |      |
| 189 Syracuse    | 0 | 217 | 217 | 0  | 594  | 408  | 1.086497 | 0 | 4  | 0  | 5  | 0   | 0   | 0   | 0  | 0   | 0  | 0   | 0 | 0  | 0   | 0  | 0  | 0  | 9   |      |
| 190 Syracuse    | 0 | 101 | 101 | 0  | 291  | 124  | 1.086497 | 0 | 5  | 0  | 0  | 0   | 0   | 0   | 0  | 0   | 0  | 0   | 0 | 24 | 0   | 0  | 0  | 0  | 29  |      |
| 191 Onondaga    | 0 | 380 | 380 | 0  | 918  | 606  | 0.260395 | 0 | 0  | 0  | 4  | 2   | 13  | 6   | 2  | 0   | 0  | 7   | 0 | 0  | 0   | 0  | 3  | 0  | 37  |      |
| 192 Syracuse    | 0 | 377 | 377 | 0  | 1023 | 718  | 1.360265 | 0 | 4  | 1  | 1  | 2   | 4   | 2   | 1  | 3   | 0  | 2   | 0 | 0  | 1   | 1  | 0  | 1  | 2   | 25   |
| 193 Syracuse    | 0 | 142 | 142 | 0  | 359  | 263  | 1.360265 | 0 | 0  | 0  | 1  | 0   | 0   | 1   | 0  | 1   | 0  | 0   | 0 | 1  | 1   | 0  | 0  | 0  | 5   |      |
| 194 Elbridge    | 0 | 147 | 142 | 5  | 341  | 272  | 2.727273 | 0 | 3  | 0  | 0  | 8   | 30  | 0   | 0  | 0   | 0  | 18  | 0 | 0  | 34  | 3  | 0  | 0  | 2   | 98   |
| 195 Elbridge    | 0 | 228 | 228 | 0  | 565  | 432  | 2.727273 | 9 | 8  | 0  | 0  | 27  | 0   | 45  | 22 | 0   | 0  | 30  | 0 | 0  | 0   | 1  | 0  | 0  | 8   | 150  |
| 196 Syracuse    | 0 | 193 | 193 | 0  | 377  | 317  | 3.996721 | 2 | 10 | 0  | 0  | 7   | 0   | 0   | 0  | 14  | 0  | 6   | 0 | 0  | 0   | 0  | 0  | 0  | 39  |      |
| 197 Onondaga    | 0 | 1   | 1   | 0  | 2    | 2    | 0        | 0 | 0  | 0  | 0  | 0   | 0   | 0   | 0  | 0   | 0  | 0   | 0 | 0  | 96  | 0  | 0  | 0  | 96  |      |
| 198 Onondaga    | 0 | 52  | 52  | 0  | 51   | 35   | 0        | 0 | 0  | 0  | 0  | 0   | 0   | 0   | 0  | 0   | 0  | 0   | 0 | 0  | 0   | 0  | 0  | 0  | 0   |      |
| 199 Syracuse    | 0 | 95  | 95  | 0  | 270  | 120  | 0.015934 | 0 | 3  | 0  | 0  | 0   | 0   | 0   | 0  | 0   | 12 | 0   | 0 | 2  | 3   | 0  | 10 | 0  | 30  |      |
| 200 Syracuse    | 0 | 166 | 166 | 0  | 478  | 205  | 0.096402 | 0 | 2  | 1  | 1  | 1   | 3   | 2   | 1  | 3   | 0  | 3   | 0 | 0  | 3   | 2  | 1  | 1  | 1   | 25   |
| 201 Syracuse    | 0 | 204 | 204 | 0  | 592  | 268  | 0.096402 | 0 | 0  | 0  | 0  | 0   | 0   | 0   | 0  | 0   | 0  | 0   | 0 | 0  | 4   | 0  | 0  | 0  | 4   |      |
| 202 Fayettevill | 0 | 454 | 454 | 0  | 908  | 710  | 2.639292 | 3 | 31 | 0  | 20 | 25  | 39  | 20  | 0  | 0   | 0  | 287 | 0 | 7  | 27  | 7  | 11 | 0  | 7   | 484  |
| 203 Syracuse    | 0 | 144 | 144 | 0  | 345  | 170  | 0.140317 | 0 | 0  | 0  | 0  | 0   | 0   | 0   | 0  | 0   | 0  | 0   | 0 | 0  | 10  | 0  | 0  | 0  | 10  |      |
| 204 Syracuse    | 0 | 264 | 258 | 6  | 776  | 279  | 10.98307 | 0 | 0  | 0  | 0  | 0   | 0   | 0   | 0  | 0   | 0  | 0   | 0 | 0  | 15  | 0  | 5  | 0  | 20  |      |
| 205 Syracuse    | 0 | 12  | 12  | 0  | 30   | 9    | 10.98307 | 0 | 0  | 0  | 5  | 0   | 0   | 0   | 0  | 0   | 0  | 0   | 0 | 0  | 2   | 4  | 2  | 0  | 13  |      |
| 206 Syracuse    | 0 | 99  | 99  | 0  | 278  | 95   | 4.982461 | 0 | 0  | 0  | 0  | 0   | 0   | 0   | 0  | 0   | 0  | 0   | 0 | 0  | 0   | 0  | 0  | 0  | 0   |      |
| 207 Syracuse    | 0 | 91  | 91  | 0  | 241  | 88   | 4.982461 | 0 | 0  | 0  | 0  | 0   | 0   | 0   | 0  | 0   | 0  | 0   | 0 | 21 | 0   | 0  | 0  | 0  | 21  |      |
| 208 Dewitt      | 0 | 589 | 585 | 4  | 1463 | 1000 | 1.883991 | 0 | 39 | 0  | 0  | 0   | 246 | 0   | 0  | 0   | 0  | 0   | 0 | 0  | 0   | 0  | 0  | 0  | 285 |      |
| 209 Onondaga    | 0 | 328 | 328 | 0  | 608  | 430  | 1.465791 | 0 | 5  | 0  | 0  | 11  | 0   | 0   | 67 | 60  | 0  | 0   | 0 | 0  | 14  | 6  | 0  | 0  | 163 |      |
| 210 Onondaga    | 0 | 83  | 78  | 5  | 193  | 125  | 1.465791 | 0 | 28 | 0  | 0  | 23  | 0   | 0   | 0  | 14  | 0  | 0   | 0 | 0  | 3   | 14 | 0  | 0  | 82  |      |
| 211 Syracuse    | 0 | 270 | 260 | 10 | 581  | 449  | 2.256462 | 2 | 0  | 0  | 0  | 0   | 133 | 0   | 0  | 0   | 0  | 0   | 0 | 0  | 31  | 11 | 0  | 0  | 177 |      |
| 212 Syracuse    | 0 | 486 | 481 | 5  | 1231 | 892  | 0.020548 | 0 | 0  | 0  | 0  | 0   | 171 | 0   | 0  | 0   | 0  | 0   | 0 | 0  | 5   | 7  | 0  | 0  | 183 |      |
| 213 Camillus    | 0 | 313 | 313 | 0  | 589  | 464  | 1.706925 | 1 | 40 | 0  | 0  | 58  | 0   | 6   | 0  | 0   | 15 | 0   | 0 | 0  | 6   | 0  | 0  | 3  | 129 |      |
| 214 Camillus    | 0 | 527 | 527 | 0  | 801  | 620  | 1.706925 | 0 | 4  | 0  | 0  | 0   | 0   | 0   | 0  | 3   | 0  | 3   | 0 | 0  | 0   | 0  | 0  | 0  | 10  |      |
| 215 Camillus    | 0 | 45  | 45  | 0  | 58   | 57   | 1.706925 | 0 | 0  | 0  | 0  | 0   | 0   | 0   | 0  | 0   | 0  | 0   | 0 | 0  | 0   | 0  | 0  | 0  | 0   |      |
| 216 Onondaga    | 0 | 132 | 131 | 1  | 300  | 193  | 1.615259 | 0 | 0  | 0  | 0  | 0   | 0   | 0   | 0  | 0   | 0  | 0   | 0 | 0  | 0   | 0  | 0  | 0  | 0   |      |
| 217 Syracuse    | 0 | 261 | 257 | 4  | 561  | 459  | 0.667898 | 0 | 0  | 0  | 0  | 1   | 1   | 1   | 1  | 0   | 0  | 1   | 0 | 0  | 0   | 0  | 0  | 0  | 5   |      |
| 218 Syracuse    | 0 | 172 | 172 | 0  | 356  | 283  | 0.667898 | 0 | 2  | 1  | 1  | 1   | 3   | 2   | 1  | 3   | 0  | 3   | 0 | 0  | 3   | 2  | 1  | 1  | 25  |      |
| 219 Dewitt      | 0 | 124 | 124 | 0  | 355  | 235  | 2.139762 | 0 | 0  | 0  | 0  | 0   | 0   | 0   | 0  | 0   | 0  | 0   | 0 | 0  | 0   | 0  | 0  | 0  | 0   |      |
| 220 Dewitt      | 0 | 283 | 278 | 5  | 628  | 443  | 2.139762 | 3 | 5  | 0  | 0  | 17  | 0   | 23  | 0  | 0   | 0  | 0   | 0 | 0  | 82  | 0  | 0  | 0  | 130 |      |
| 221 Syracuse    | 0 | 158 | 158 | 0  | 443  | 148  | 4.256793 | 0 | 0  | 0  | 0  | 0   | 0   | 0   | 0  | 0   | 0  | 0   | 0 | 0  | 0   | 0  | 0  | 0  | 0   |      |
| 222 Syracuse    | 0 | 157 | 157 | 0  | 473  | 147  | 4.256793 | 0 | 0  | 0  | 0  | 0   | 0   | 0   | 0  | 0   | 0  | 0   | 0 | 0  | 0   | 9  | 0  | 0  | 9   |      |
| 223 Syracuse    | 0 | 140 | 119 | 21 | 352  | 91   | 7.750176 | 0 | 0  | 0  | 0  | 0   | 0   | 13  | 0  | 0   | 0  | 0   | 0 | 0  | 0   | 22 | 0  | 0  | 35  |      |
| 224 Syracuse    | 0 | 57  | 57  | 0  | 150  | 37   | 7.687288 | 0 | 0  | 0  | 0  | 0   | 0   | 0   | 0  | 6   | 0  | 0   | 0 | 0  | 34  | 0  | 0  | 0  | 40  |      |
| 225 Syracuse    | 0 | 74  | 74  | 0  | 210  | 49   | 7.687288 | 0 | 0  | 0  | 0  | 0   | 0   | 0   | 0  | 0   | 0  | 0   | 0 | 0  | 0   | 0  | 0  | 0  | 0   |      |
| 226 Fayettevill | 0 | 472 | 466 | 6  | 1264 | 943  | 0.000267 | 0 | 8  | 0  | 0  | 0   | 0   | 0   | 0  | 0   | 84 | 0   | 0 | 57 | 43  | 8  | 0  | 8  | 208 |      |
| 227 Syracuse    | 0 | 110 | 65  | 45 | 341  | 83   | 15       | 0 | 0  | 0  | 0  | 23  | 0   | 0   | 0  | 0   | 0  | 0   | 0 | 0  | 28  | 16 | 30 | 0  | 97  |      |
| 228 Manlius     | 0 | 182 | 182 | 0  | 195  | 160  | 0.076914 | 0 | 65 | 35 | 0  | 515 | 0   | 115 | 0  | 100 | 0  | 62  | 0 | 0  | 925 | 38 | 42 | 62 | 4   | 1963 |
| 229 Onondaga    | 0 | 74  | 74  | 0  | 147  | 104  | 1.46989  | 0 | 0  | 0  | 0  | 0   | 106 | 0   | 0  | 0   |    |     |   |    |     |    |    |    |     |      |



|     |          |   |      |      |     |      |      |          |   |     |    |    |     |     |    |    |     |    |      |   |   |     |    |     |    |   |     |      |    |     |     |     |     |
|-----|----------|---|------|------|-----|------|------|----------|---|-----|----|----|-----|-----|----|----|-----|----|------|---|---|-----|----|-----|----|---|-----|------|----|-----|-----|-----|-----|
| 244 | Manlius  | 0 | 536  | 536  | 0   | 1151 | 892  | 0.034934 | 0 | 0   | 0  | 0  | 82  | 0   | 0  | 0  | 51  | 27 | 0    | 0 | 0 | 0   | 0  | 0   | 0  | 0 | 0   | 0    | 0  | 0   | 0   | 0   | 160 |
| 245 | Syracuse | 0 | 155  | 155  | 0   | 454  | 126  | 4.882883 | 0 | 0   | 0  | 0  | 0   | 0   | 0  | 0  | 0   | 0  | 0    | 0 | 0 | 4   | 0  | 0   | 0  | 0 | 0   | 0    | 0  | 0   | 0   | 4   |     |
| 246 | Syracuse | 0 | 154  | 154  | 0   | 417  | 121  | 4.882883 | 0 | 0   | 0  | 0  | 0   | 0   | 0  | 0  | 0   | 0  | 0    | 0 | 0 | 0   | 30 | 0   | 0  | 0 | 0   | 0    | 0  | 0   | 0   | 30  |     |
| 247 | Syracuse | 0 | 0    | 0    | 0   | 0    | 0    | 15       | 0 | 0   | 0  | 0  | 0   | 0   | 0  | 0  | 57  | 0  | 0    | 0 | 0 | 0   | 0  | 0   | 0  | 0 | 0   | 0    | 0  | 0   | 0   | 57  |     |
| 248 | Syracuse | 0 | 83   | 83   | 0   | 323  | 76   | 15       | 0 | 0   | 0  | 0  | 0   | 117 | 0  | 0  | 0   | 0  | 0    | 0 | 0 | 0   | 0  | 0   | 0  | 0 | 0   | 0    | 0  | 0   | 0   | 117 |     |
| 249 | Syracuse | 0 | 289  | 273  | 16  | 697  | 280  | 6.905163 | 0 | 0   | 0  | 0  | 0   | 20  | 35 | 0  | 0   | 61 | 0    | 0 | 0 | 0   | 0  | 212 | 0  | 0 | 0   | 0    | 4  | 332 | 0   | 0   |     |
| 250 | Syracuse | 0 | 205  | 205  | 0   | 553  | 208  | 6.905163 | 0 | 0   | 0  | 0  | 0   | 0   | 0  | 0  | 0   | 0  | 0    | 0 | 0 | 0   | 0  | 0   | 0  | 0 | 0   | 0    | 0  | 0   | 0   | 0   |     |
| 251 | Syracuse | 0 | 148  | 148  | 0   | 415  | 131  | 7.897091 | 0 | 0   | 0  | 0  | 0   | 49  | 0  | 0  | 0   | 0  | 0    | 0 | 0 | 0   | 0  | 15  | 0  | 0 | 0   | 0    | 0  | 0   | 64  |     |     |
| 252 | Syracuse | 0 | 85   | 84   | 1   | 266  | 79   | 7.897091 | 0 | 0   | 0  | 0  | 0   | 0   | 0  | 0  | 6   | 0  | 0    | 0 | 0 | 0   | 2  | 1   | 0  | 0 | 0   | 0    | 0  | 0   | 9   |     |     |
| 253 | Syracuse | 0 | 146  | 139  | 7   | 343  | 260  | 5.454634 | 0 | 9   | 0  | 0  | 0   | 0   | 0  | 0  | 0   | 0  | 0    | 0 | 0 | 0   | 64 | 39  | 0  | 0 | 0   | 0    | 0  | 0   | 112 |     |     |
| 254 | Dewitt   | 0 | 135  | 126  | 9   | 307  | 206  | 5.454634 | 0 | 21  | 0  | 6  | 54  | 93  | 25 | 0  | 27  | 5  | 0    | 0 | 0 | 40  | 10 | 2   | 15 | 0 | 0   | 0    | 0  | 0   | 298 |     |     |
| 255 | Dewitt   | 0 | 276  | 272  | 4   | 732  | 470  | 5.454634 | 0 | 3   | 0  | 5  | 0   | 123 | 8  | 14 | 20  | 4  | 0    | 0 | 0 | 32  | 4  | 2   | 12 | 0 | 0   | 0    | 0  | 0   | 227 |     |     |
| 256 | Camillus | 0 | 1295 | 1291 | 4   | 2907 | 2284 | 0.078177 | 0 | 40  | 0  | 0  | 146 | 41  | 46 | 0  | 159 | 0  | 30   | 0 | 0 | 35  | 25 | 30  | 63 | 0 | 29  | 644  | 0  | 0   | 0   |     |     |
| 257 | Camillus | 0 | 791  | 791  | 0   | 2062 | 1469 | 0        | 0 | 0   | 0  | 0  | 0   | 0   | 0  | 0  | 0   | 0  | 0    | 0 | 0 | 0   | 40 | 0   | 0  | 0 | 0   | 0    | 0  | 0   | 40  |     |     |
| 258 | Geddes   | 0 | 459  | 459  | 0   | 1027 | 760  | 0.000236 | 0 | 0   | 0  | 35 | 0   | 162 | 0  | 0  | 0   | 0  | 0    | 0 | 0 | 0   | 0  | 0   | 0  | 0 | 0   | 0    | 0  | 0   | 197 |     |     |
| 259 | Geddes   | 0 | 1    | 1    | 0   | 2    | 2    | 0        | 0 | 36  | 0  | 0  | 340 | 0   | 11 | 0  | 60  | 0  | 0    | 0 | 0 | 65  | 2  | 0   | 0  | 0 | 0   | 0    | 0  | 0   | 514 |     |     |
| 260 | Syracuse | 0 | 70   | 65   | 5   | 117  | 99   | 0        | 0 | 67  | 0  | 9  | 76  | 0   | 11 | 0  | 9   | 0  | 0    | 0 | 1 | 473 | 19 | 0   | 0  | 0 | 0   | 0    | 0  | 0   | 665 |     |     |
| 261 | Syracuse | 0 | 492  | 492  | 0   | 1136 | 705  | 12.9954  | 0 | 0   | 0  | 0  | 0   | 0   | 0  | 0  | 4   | 0  | 0    | 0 | 0 | 10  | 31 | 4   | 0  | 0 | 0   | 0    | 0  | 49  |     |     |     |
| 262 | Syracuse | 0 | 107  | 107  | 0   | 326  | 85   | 2.478088 | 0 | 1   | 0  | 0  | 0   | 0   | 0  | 0  | 0   | 0  | 0    | 0 | 0 | 8   | 0  | 0   | 0  | 0 | 0   | 0    | 0  | 9   |     |     |     |
| 263 | Syracuse | 0 | 132  | 121  | 11  | 391  | 107  | 2.478088 | 0 | 0   | 0  | 0  | 0   | 0   | 0  | 0  | 10  | 0  | 0    | 0 | 0 | 0   | 0  | 3   | 0  | 0 | 0   | 0    | 13 |     |     |     |     |
| 264 | Camillus | 0 | 161  | 161  | 0   | 325  | 201  | 3.271145 | 0 | 22  | 0  | 17 | 19  | 22  | 11 | 0  | 0   | 31 | 0    | 0 | 0 | 0   | 8  | 0   | 0  | 0 | 0   | 130  | 0  | 0   | 0   |     |     |
| 265 | Camillus | 0 | 264  | 264  | 0   | 590  | 360  | 3.271145 | 0 | 0   | 0  | 0  | 42  | 0   | 0  | 0  | 11  | 0  | 0    | 0 | 0 | 21  | 0  | 0   | 0  | 0 | 0   | 74   | 0  | 0   | 0   |     |     |
| 266 | Camillus | 0 | 174  | 167  | 7   | 347  | 219  | 3.271145 | 0 | 13  | 0  | 7  | 4   | 0   | 0  | 0  | 0   | 0  | 22   | 0 | 0 | 9   | 4  | 6   | 0  | 0 | 4   | 69   | 0  | 0   | 0   |     |     |
| 267 | Camillus | 0 | 579  | 575  | 4   | 1375 | 998  | 1.746723 | 0 | 53  | 0  | 0  | 43  | 0   | 41 | 0  | 48  | 0  | 0    | 0 | 0 | 0   | 12 | 0   | 0  | 0 | 0   | 197  | 0  | 0   | 0   |     |     |
| 268 | Geddes   | 0 | 503  | 503  | 0   | 1237 | 870  | 0.010062 | 0 | 2   | 0  | 12 | 0   | 0   | 0  | 0  | 0   | 0  | 0    | 0 | 0 | 0   | 0  | 0   | 0  | 0 | 0   | 14   | 0  | 0   | 0   |     |     |
| 269 | Syracuse | 0 | 1    | 1    | 0   | 1    | 0    | 13.56077 | 0 | 2   | 0  | 0  | 9   | 0   | 0  | 0  | 0   | 0  | 0    | 0 | 0 | 23  | 5  | 0   | 0  | 0 | 0   | 39   | 0  | 0   | 0   |     |     |
| 270 | Syracuse | 0 | 0    | 0    | 0   | 0    | 0    | 1.932763 | 0 | 0   | 0  | 0  | 0   | 0   | 0  | 0  | 0   | 0  | 0    | 0 | 0 | 0   | 0  | 0   | 0  | 0 | 0   | 0    | 0  | 0   | 0   |     |     |
| 271 | Syracuse | 0 | 397  | 395  | 2   | 1136 | 425  | 1.932763 | 0 | 0   | 0  | 6  | 21  | 161 | 10 | 0  | 0   | 0  | 10   | 0 | 0 | 7   | 0  | 0   | 0  | 0 | 10  | 225  | 0  | 0   | 0   |     |     |
| 272 | Syracuse | 0 | 219  | 181  | 38  | 494  | 142  | 8.734152 | 0 | 2   | 0  | 0  | 9   | 0   | 3  | 0  | 26  | 0  | 0    | 0 | 0 | 0   | 2  | 0   | 0  | 0 | 0   | 42   | 0  | 0   | 0   |     |     |
| 273 | Syracuse | 0 | 55   | 4    | 51  | 203  | 29   | 15       | 0 | 10  | 0  | 8  | 6   | 0   | 0  | 0  | 0   | 0  | 8    | 0 | 0 | 4   | 19 | 5   | 0  | 0 | 0   | 60   | 0  | 0   | 0   |     |     |
| 274 | Syracuse | 0 | 324  | 275  | 49  | 667  | 102  | 15       | 0 | 0   | 0  | 0  | 0   | 0   | 0  | 0  | 0   | 0  | 0    | 0 | 0 | 39  | 25 | 0   | 0  | 0 | 0   | 64   | 0  | 0   | 0   |     |     |
| 275 | Camillus | 0 | 62   | 62   | 0   | 141  | 107  | 0        | 0 | 17  | 0  | 7  | 72  | 368 | 39 | 41 | 9   | 0  | 0    | 0 | 0 | 479 | 12 | 0   | 0  | 0 | 0   | 1044 | 0  | 0   | 0   |     |     |
| 276 | Syracuse | 0 | 264  | 264  | 0   | 628  | 477  | 4.45837  | 0 | 0   | 0  | 0  | 0   | 0   | 0  | 0  | 0   | 16 | 0    | 0 | 0 | 9   | 0  | 0   | 0  | 0 | 0   | 25   | 0  | 0   | 0   |     |     |
| 277 | Syracuse | 0 | 182  | 178  | 4   | 367  | 300  | 4.45837  | 0 | 4   | 0  | 4  | 0   | 0   | 0  | 0  | 0   | 0  | 0    | 0 | 0 | 0   | 0  | 0   | 0  | 0 | 0   | 8    | 0  | 0   | 0   |     |     |
| 278 | Syracuse | 0 | 85   | 85   | 0   | 183  | 142  | 4.45837  | 0 | 0   | 0  | 0  | 0   | 0   | 0  | 0  | 23  | 0  | 0    | 0 | 0 | 0   | 0  | 0   | 0  | 0 | 0   | 23   | 0  | 0   | 0   |     |     |
| 279 | Syracuse | 0 | 701  | 0    | 701 | 668  | 668  | 20       | 0 | 2   | 1  | 1  | 1   | 3   | 2  | 1  | 3   | 0  | 3    | 0 | 0 | 3   | 2  | 1   | 1  | 0 | 1   | 25   | 0  | 0   | 0   |     |     |
| 280 | Syracuse | 0 | 706  | 1    | 705 | 1941 | 1200 | 20       | 0 | 90  | 0  | 34 | 0   | 0   | 0  | 0  | 0   | 0  | 175  | 0 | 0 | 1   | 0  | 0   | 0  | 0 | 0   | 300  | 0  | 0   | 0   |     |     |
| 281 | Syracuse | 0 | 331  | 311  | 20  | 865  | 255  | 10.61111 | 0 | 0   | 0  | 4  | 0   | 17  | 0  | 0  | 14  | 0  | 0    | 0 | 0 | 0   | 4  | 4   | 0  | 0 | 4   | 47   | 0  | 0   | 0   |     |     |
| 282 | Syracuse | 0 | 0    | 0    | 0   | 0    | 0    | 15       | 0 | 0   | 0  | 0  | 0   | 0   | 0  | 0  | 0   | 0  | 0    | 0 | 0 | 0   | 0  | 0   | 0  | 0 | 0   | 0    | 0  | 0   | 0   |     |     |
| 283 | Syracuse | 0 | 310  | 273  | 37  | 870  | 662  | 15       | 0 | 0   | 43 | 0  | 0   | 0   | 0  | 0  | 1   | 0  | 0    | 0 | 0 | 0   | 1  | 0   | 0  | 0 | 0   | 45   | 0  | 0   | 0   |     |     |
| 284 | Syracuse | 0 | 838  | 141  | 697 | 326  | 157  | 15       | 0 | 8   | 1  | 3  | 4   | 10  | 6  | 3  | 8   | 1  | 6    | 1 | 0 | 3   | 4  | 3   | 3  | 1 | 3   | 68   | 0  | 0   | 0   |     |     |
| 285 | Syracuse | 0 | 259  | 253  | 6   | 742  | 432  | 15       | 0 | 0   | 0  | 0  | 0   | 0   | 0  | 0  | 0   | 0  | 0    | 0 | 0 | 0   | 2  | 0   | 0  | 0 | 0   | 2    | 0  | 0   | 0   |     |     |
| 286 | Syracuse | 0 | 192  | 192  | 0   | 454  | 279  | 15       | 0 | 0   | 29 | 0  | 52  | 0   | 18 | 0  | 0   | 0  | 0    | 0 | 0 | 23  | 19 | 33  | 0  | 0 | 0   | 174  | 0  | 0   | 0   |     |     |
| 287 | Elbridge | 0 | 266  | 266  | 0   | 672  | 510  | 2.072539 | 0 | 15  | 0  | 0  | 6   | 74  | 0  | 0  | 0   | 2  | 0    | 0 | 0 | 4   | 6  | 0   | 0  | 0 | 27  | 134  | 0  | 0   | 0   |     |     |
| 288 | Elbridge | 0 | 228  | 224  | 4   | 558  | 438  | 2.072539 | 5 | 105 | 0  | 45 | 20  | 230 | 2  | 2  | 0   | 0  | 0    | 0 | 0 | 15  | 15 | 0   | 45 | 2 | 0   | 486  | 0  | 0   | 0   |     |     |
| 289 | Elbridge | 0 | 228  | 228  | 0   | 566  | 438  | 2.072539 | 0 | 78  | 0  | 0  | 15  | 0   | 9  | 0  | 18  | 0  | 1420 | 0 | 0 | 90  | 0  | 5   | 0  | 0 | 0   | 1635 | 0  | 0   | 0   |     |     |
| 290 | Syracuse | 0 | 192  | 146  | 46  | 577  | 155  | 10.27161 | 0 | 0   | 0  | 0  | 0   | 0   | 0  | 0  | 10  | 0  | 0    | 0 | 0 | 0   | 0  | 0   | 0  | 0 | 10  | 0    | 0  | 0   | 0   |     |     |
| 291 | Geddes   | 0 | 428  | 420  | 8   | 937  | 638  | 1.702312 | 0 | 0   | 0  | 0  | 0   | 0   | 0  | 0  | 0   | 0  | 0    | 0 | 0 | 0   | 0  | 0   | 0  | 0 | 18  | 18   | 0  | 0   | 0   |     |     |
| 292 | Syracuse | 0 | 12   | 12   | 0   | 26   | 3    | 4.11152  | 0 | 504 | 0  | 0  | 0   | 0   | 0  | 0  | 6   | 0  | 11   | 0 | 0 | 172 | 35 | 4   | 0  | 0 | 70  | 802  | 0  | 0   | 0   |     |     |
| 293 | Syracuse | 0 | 0    | 0    | 0   | 0    | 0    | 4.11152  | 0 | 0   | 0  | 0  | 0   | 0   | 0  | 0  | 0   | 0  | 0    | 0 | 0 | 0   | 0  | 0   | 0  | 0 | 0   | 0    | 0  | 0   | 0   |     |     |
| 294 | Syracuse | 0 | 29   | 29   | 0   | 64   | 49   | 1.599884 | 0 | 0   | 0  | 0  | 0   | 116 | 0  | 0  | 107 | 0  | 0    | 0 | 0 | 3   | 1  | 10  | 0  | 0 | 0   | 237  | 0  | 0   | 0   |     |     |
| 295 | Syracuse | 0 | 271  | 271  | 0   | 567  | 457  | 1.599884 | 0 | 0   | 0  | 0  | 0   | 0   | 0  | 0  | 65  | 0  | 0    | 0 | 0 | 0   | 16 | 72  | 0  | 0 | 0   | 153  | 0  | 0   | 0   |     |     |
| 296 | Syracuse | 0 | 336  | 336  | 0   | 849  | 514  | 10.32984 | 0 | 0   | 0  | 9  | 0   | 25  | 0  | 0  | 0   | 0  | 0    | 0 | 0 | 0   | 20 | 9   | 0  | 0 | 0   | 63   | 0  | 0   | 0   |     |     |
| 297 | Geddes   | 0 | 450  | 450  | 0   | 1028 | 702  | 0.080242 | 0 | 62  | 0  | 0  | 0   | 0   | 0  | 0  | 0   | 0  | 0    | 0 | 0 | 62  | 0  | 0   | 0  | 0 | 124 | 0    | 0  | 0   | 0   |     |     |
| 298 | Syracuse | 0 | 465  | 0    | 465 | 428  | 428  | 20       | 0 | 27  | 43 | 0  | 0   | 500 | 0  | 0  | 0   | 0  | 0    | 0 | 0 | 0   | 0  | 0   | 0  | 0 | 0   | 570  | 0  | 0   | 0   |     |     |
| 299 | Syracuse | 0 | 64   | 0    | 64  | 59   | 59   | 20       | 0 | 0   | 0  | 0  | 0   | 361 | 0  | 0  | 0   | 0  | 0    | 0 | 0 | 0   | 0  | 0   | 0  | 0 | 16  | 377  | 0  | 0   | 0   |     |     |
| 300 | Dewitt   | 0 | 310  | 310  | 0   | 742  | 484  | 6.477802 | 0 | 59  | 15 | 24 | 70  | 0   | 54 | 0  | 33  | 0  | 7    | 0 | 0 | 42  | 52 | 3   | 6  | 0 | 0   | 365  | 0  | 0   | 0   |     |     |
| 301 | Syracuse | 0 | 606  | 605  |     |      |      |          |   |     |    |    |     |     |    |    |     |    |      |   |   |     |    |     |    |   |     |      |    |     |     |     |     |



|              |   |     |     |     |      |     |          |   |     |     |    |     |     |     |     |     |     |    |   |     |     |     |    |     |     |      |     |
|--------------|---|-----|-----|-----|------|-----|----------|---|-----|-----|----|-----|-----|-----|-----|-----|-----|----|---|-----|-----|-----|----|-----|-----|------|-----|
| 305 Syracuse | 0 | 47  | 47  | 0   | 104  | 18  | 15       | 0 | 19  | 0   | 0  | 0   | 125 | 0   | 0   | 0   | 0   | 52 | 0 | 5   | 28  | 0   | 0  | 0   | 0   | 229  |     |
| 306 Syracuse | 0 | 21  | 21  | 0   | 65   | 11  | 15       | 0 | 18  | 0   | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0 | 3   | 1   | 0   | 63 | 344 | 0   | 0    | 429 |
| 307 Syracuse | 0 | 58  | 18  | 40  | 66   | 16  | 15       | 0 | 0   | 0   | 0  | 0   | 0   | 0   | 0   | 0   | 16  | 0  | 0 | 0   | 0   | 0   | 0  | 0   | 0   | 16   |     |
| 308 Syracuse | 0 | 0   | 0   | 0   | 0    | 0   | 15       | 0 | 0   | 0   | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0 | 0   | 0   | 0   | 0  | 0   | 0   | 0    |     |
| 309 Syracuse | 0 | 75  | 0   | 75  | 70   | 70  | 5.377607 | 0 | 80  | 0   | 0  | 0   | 269 | 0   | 0   | 0   | 0   | 0  | 0 | 0   | 371 | 83  | 52 | 0   | 0   | 0    | 855 |
| 310 Syracuse | 0 | 1   | 1   | 0   | 1    | 0   | 5.377607 | 0 | 6   | 0   | 0  | 35  | 0   | 0   | 0   | 47  | 0   | 0  | 0 | 0   | 1   | 5   | 22 | 0   | 0   | 0    | 116 |
| 311 Syracuse | 0 | 419 | 412 | 7   | 987  | 752 | 2.210858 | 0 | 16  | 0   | 0  | 0   | 0   | 32  | 0   | 0   | 0   | 0  | 0 | 6   | 3   | 5   | 0  | 16  | 0   | 0    | 78  |
| 312 Syracuse | 0 | 0   | 0   | 0   | 0    | 0   | 20       | 0 | 183 | 0   | 0  | 66  | 0   | 109 | 0   | 738 | 0   | 0  | 0 | 63  | 24  | 0   | 10 | 0   | 0   | 1193 |     |
| 313 Syracuse | 0 | 0   | 0   | 0   | 0    | 0   | 20       | 0 | 0   | 0   | 0  | 0   | 96  | 0   | 0   | 0   | 0   | 0  | 0 | 0   | 0   | 0   | 0  | 0   | 0   | 96   |     |
| 314 Syracuse | 0 | 109 | 0   | 109 | 96   | 96  | 20       | 0 | 3   | 0   | 0  | 0   | 129 | 0   | 0   | 0   | 156 | 0  | 0 | 0   | 0   | 11  | 0  | 0   | 0   | 299  |     |
| 315 Syracuse | 0 | 0   | 0   | 0   | 0    | 0   | 20       | 0 | 0   | 0   | 0  | 0   | 341 | 0   | 0   | 34  | 0   | 0  | 0 | 35  | 5   | 5   | 0  | 0   | 0   | 420  |     |
| 316 Syracuse | 0 | 0   | 0   | 0   | 0    | 0   | 20       | 0 | 0   | 53  | 0  | 0   | 373 | 0   | 0   | 0   | 0   | 0  | 0 | 1   | 10  | 0   | 0  | 0   | 0   | 437  |     |
| 317 Syracuse | 0 | 261 | 30  | 231 | 493  | 330 | 20       | 0 | 10  | 190 | 0  | 0   | 27  | 0   | 0   | 0   | 0   | 0  | 0 | 0   | 0   | 0   | 0  | 0   | 0   | 227  |     |
| 318 Syracuse | 0 | 280 | 6   | 274 | 561  | 349 | 20       | 0 | 2   | 1   | 1  | 1   | 3   | 2   | 1   | 3   | 0   | 3  | 0 | 0   | 3   | 2   | 1  | 1   | 0   | 1    | 25  |
| 319 Syracuse | 0 | 0   | 0   | 0   | 0    | 0   | 1.718498 | 0 | 0   | 0   | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0 | 0   | 50  | 191 | 0  | 0   | 0   | 241  |     |
| 320 Syracuse | 0 | 185 | 185 | 0   | 555  | 97  | 15       | 0 | 1   | 0   | 0  | 0   | 0   | 0   | 0   | 10  | 0   | 14 | 0 | 0   | 5   | 1   | 2  | 0   | 0   | 33   |     |
| 321 Syracuse | 0 | 72  | 72  | 0   | 192  | 35  | 15       | 0 | 1   | 0   | 0  | 0   | 131 | 3   | 0   | 27  | 0   | 1  | 0 | 0   | 1   | 8   | 7  | 0   | 0   | 179  |     |
| 322 Syracuse | 0 | 62  | 62  | 0   | 184  | 32  | 15       | 0 | 1   | 0   | 0  | 0   | 13  | 2   | 0   | 38  | 0   | 0  | 0 | 3   | 31  | 14  | 0  | 0   | 2   | 104  |     |
| 323 Syracuse | 0 | 92  | 92  | 0   | 267  | 51  | 15       | 0 | 0   | 0   | 0  | 0   | 0   | 0   | 0   | 12  | 0   | 0  | 0 | 1   | 0   | 4   | 0  | 0   | 0   | 17   |     |
| 324 Manlius  | 0 | 288 | 288 | 0   | 557  | 431 | 2.618662 | 3 | 0   | 0   | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0 | 8   | 40  | 0   | 0  | 0   | 11  | 62   |     |
| 325 Manlius  | 0 | 183 | 183 | 0   | 291  | 244 | 2.618662 | 0 | 0   | 0   | 0  | 0   | 0   | 7   | 0   | 30  | 28  | 0  | 0 | 0   | 30  | 0   | 0  | 0   | 13  | 108  |     |
| 326 Syracuse | 0 | 91  | 0   | 91  | 166  | 110 | 15       | 0 | 1   | 0   | 0  | 1   | 1   | 1   | 0   | 1   | 0   | 1  | 0 | 2   | 1   | 0   | 0  | 0   | 1   | 10   |     |
| 327 Syracuse | 0 | 131 | 61  | 70  | 286  | 176 | 15       | 0 | 0   | 0   | 0  | 0   | 0   | 11  | 0   | 0   | 0   | 0  | 0 | 0   | 0   | 0   | 0  | 0   | 0   | 11   |     |
| 328 Syracuse | 0 | 503 | 0   | 503 | 464  | 464 | 20       | 0 | 0   | 0   | 0  | 0   | 16  | 0   | 0   | 0   | 0   | 0  | 0 | 0   | 1   | 0   | 0  | 0   | 0   | 17   |     |
| 329 Syracuse | 0 | 226 | 0   | 226 | 345  | 345 | 20       | 0 | 0   | 0   | 0  | 0   | 200 | 0   | 0   | 0   | 0   | 0  | 0 | 0   | 0   | 1   | 0  | 0   | 0   | 201  |     |
| 330 Syracuse | 0 | 122 | 122 | 0   | 310  | 189 | 15       | 0 | 11  | 0   | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0 | 0   | 0   | 0   | 0  | 0   | 0   | 11   |     |
| 331 Syracuse | 0 | 85  | 85  | 0   | 211  | 131 | 15       | 0 | 1   | 0   | 0  | 1   | 1   | 1   | 0   | 1   | 0   | 1  | 0 | 0   | 2   | 1   | 0  | 0   | 0   | 1    | 10  |
| 332 Dewitt   | 0 | 234 | 234 | 0   | 533  | 351 | 2.711263 | 0 | 46  | 0   | 0  | 0   | 75  | 0   | 0   | 0   | 0   | 0  | 0 | 0   | 14  | 0   | 0  | 0   | 0   | 135  |     |
| 333 Dewitt   | 0 | 140 | 130 | 10  | 258  | 179 | 2.711263 | 0 | 13  | 0   | 0  | 85  | 0   | 0   | 0   | 0   | 25  | 0  | 0 | 0   | 147 | 56  | 0  | 0   | 0   | 326  |     |
| 334 Camillus | 0 | 607 | 603 | 4   | 1274 | 974 | 0.002711 | 1 | 42  | 0   | 0  | 20  | 109 | 101 | 136 | 0   | 0   | 4  | 0 | 0   | 129 | 41  | 0  | 0   | 32  | 0    | 615 |
| 335 Syracuse | 0 | 167 | 167 | 0   | 426  | 171 | 5.485097 | 0 | 0   | 0   | 0  | 0   | 117 | 2   | 0   | 1   | 0   | 0  | 0 | 8   | 5   | 9   | 0  | 0   | 0   | 142  |     |
| 336 Syracuse | 0 | 203 | 203 | 0   | 564  | 216 | 5.485097 | 0 | 0   | 0   | 0  | 31  | 0   | 9   | 0   | 30  | 0   | 0  | 0 | 1   | 24  | 39  | 0  | 0   | 0   | 134  |     |
| 337 Syracuse | 0 | 5   | 0   | 5   | 0    | 0   | 20       | 0 | 35  | 41  | 9  | 82  | 46  | 0   | 0   | 20  | 0   | 0  | 0 | 1   | 102 | 0   | 0  | 0   | 169 | 505  |     |
| 338 Syracuse | 0 | 3   | 0   | 3   | 0    | 0   | 20       | 0 | 0   | 0   | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0 | 0   | 0   | 16  | 0  | 0   | 16  |      |     |
| 339 Syracuse | 0 | 166 | 166 | 0   | 68   | 51  | 20       | 0 | 3   | 0   | 0  | 0   | 0   | 162 | 0   | 0   | 0   | 0  | 0 | 50  | 0   | 3   | 0  | 0   | 0   | 218  |     |
| 340 Syracuse | 0 | 100 | 100 | 0   | 0    | 0   | 20       | 0 | 0   | 0   | 0  | 0   | 0   | 0   | 0   | 446 | 0   | 0  | 0 | 0   | 0   | 0   | 0  | 0   | 0   | 446  |     |
| 341 Syracuse | 0 | 0   | 0   | 0   | 0    | 0   | 20       | 0 | 12  | 0   | 0  | 0   | 234 | 0   | 0   | 17  | 0   | 0  | 0 | 0   | 0   | 0   | 0  | 0   | 0   | 263  |     |
| 342 Syracuse | 0 | 0   | 0   | 0   | 0    | 0   | 20       | 0 | 36  | 13  | 0  | 206 | 7   | 30  | 0   | 240 | 0   | 6  | 0 | 0   | 65  | 0   | 11 | 30  | 0   | 644  |     |
| 343 Syracuse | 0 | 394 | 394 | 0   | 218  | 154 | 20       | 0 | 1   | 0   | 0  | 1   | 1   | 1   | 0   | 1   | 0   | 1  | 0 | 2   | 1   | 0   | 0  | 0   | 1   | 10   |     |
| 344 Syracuse | 0 | 5   | 0   | 5   | 4    | 4   | 20       | 0 | 7   | 0   | 0  | 0   | 36  | 0   | 0   | 0   | 0   | 0  | 0 | 101 | 1   | 0   | 0  | 0   | 0   | 145  |     |
| 345 Syracuse | 0 | 135 | 135 | 0   | 287  | 179 | 20       | 0 | 0   | 0   | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0 | 0   | 9   | 0   | 10 | 0   | 0   | 19   |     |
| 346 Syracuse | 0 | 69  | 0   | 69  | 62   | 62  | 20       | 0 | 0   | 0   | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0 | 0   | 6   | 0   | 0  | 0   | 0   | 6    |     |
| 347 Syracuse | 0 | 209 | 207 | 2   | 470  | 363 | 15       | 0 | 0   | 0   | 0  | 0   | 26  | 0   | 0   | 0   | 0   | 0  | 0 | 0   | 1   | 0   | 0  | 0   | 0   | 27   |     |
| 348 Syracuse | 0 | 222 | 222 | 0   | 218  | 188 | 15       | 0 | 9   | 0   | 9  | 3   | 2   | 1   | 0   | 228 | 1   | 0  | 0 | 0   | 5   | 54  | 0  | 0   | 0   | 312  |     |
| 349 Geddes   | 0 | 212 | 212 | 0   | 528  | 375 | 2.802125 | 0 | 0   | 0   | 10 | 0   | 0   | 8   | 0   | 0   | 0   | 0  | 0 | 1   | 8   | 0   | 0  | 0   | 0   | 27   |     |
| 350 Camillus | 0 | 505 | 505 | 0   | 1233 | 878 | 0.188091 | 0 | 18  | 0   | 0  | 0   | 0   | 0   | 0   | 410 | 0   | 0  | 0 | 0   | 85  | 34  | 0  | 0   | 0   | 547  |     |
| 351 Manlius  | 0 | 433 | 433 | 0   | 988  | 747 | 1.354432 | 0 | 20  | 0   | 0  | 0   | 0   | 20  | 0   | 0   | 0   | 0  | 0 | 0   | 30  | 0   | 85 | 0   | 0   | 155  |     |
| 352 Manlius  | 0 | 62  | 575 |     |      |     |          |   |     |     |    |     |     |     |     |     |     |    |   |     |     |     |    |     |     |      |     |



|              |   |      |      |     |      |      |          |   |      |     |     |     |     |      |     |     |    |     |   |     |      |     |     |     |    |     |      |
|--------------|---|------|------|-----|------|------|----------|---|------|-----|-----|-----|-----|------|-----|-----|----|-----|---|-----|------|-----|-----|-----|----|-----|------|
| 366 Solvay   | 0 | 202  | 202  | 0   | 480  | 343  | 2.016784 | 0 | 44   | 0   | 38  | 21  | 0   | 15   | 0   | 91  | 0  | 0   | 0 | 0   | 43   | 6   | 11  | 0   | 0  | 6   | 275  |
| 367 Geddes   | 0 | 187  | 187  | 0   | 468  | 310  | 0.093832 | 0 | 0    | 0   | 0   | 0   | 55  | 6    | 0   | 3   | 0  | 0   | 0 | 0   | 0    | 8   | 0   | 0   | 0  | 6   | 78   |
| 368 Syracuse | 0 | 59   | 59   | 0   | 118  | 80   | 2.008414 | 0 | 0    | 0   | 0   | 0   | 0   | 0    | 0   | 0   | 0  | 0   | 0 | 0   | 0    | 0   | 0   | 0   | 0  | 0   |      |
| 369 Syracuse | 0 | 483  | 483  | 0   | 1025 | 710  | 2.008414 | 0 | 5    | 0   | 12  | 21  | 0   | 0    | 28  | 0   | 0  | 0   | 0 | 0   | 0    | 0   | 19  | 0   | 0  | 0   | 85   |
| 370 Syracuse | 0 | 297  | 297  | 0   | 611  | 427  | 2.008414 | 0 | 0    | 0   | 0   | 0   | 0   | 0    | 0   | 0   | 0  | 0   | 0 | 0   | 0    | 0   | 0   | 0   | 0  | 0   |      |
| 371 Syracuse | 1 | 0    | 0    | 0   | 0    | 0    | 20       | 0 | 47   | 0   | 0   | 4   | 0   | 6    | 0   | 9   | 0  | 3   | 0 | 48  | 0    | 702 | 0   | 13  | 0  | 0   | 832  |
| 372 Syracuse | 0 | 1194 | 1055 | 139 | 1193 | 593  | 20       | 0 | 27   | 0   | 0   | 6   | 0   | 15   | 0   | 259 | 0  | 11  | 0 | 16  | 1    | 237 | 11  | 6   | 0  | 37  | 626  |
| 373 Syracuse | 0 | 139  | 0    | 139 | 140  | 140  | 20       | 0 | 3    | 0   | 0   | 5   | 0   | 56   | 0   | 381 | 0  | 0   | 0 | 15  | 4    | 0   | 0   | 4   | 0  | 9   | 477  |
| 374 Syracuse | 0 | 294  | 0    | 294 | 457  | 127  | 15       | 0 | 55   | 0   | 0   | 0   | 0   | 0    | 0   | 0   | 0  | 80  | 0 | 0   | 19   | 10  | 236 | 0   | 0  | 8   | 408  |
| 375 Syracuse | 0 | 0    | 0    | 0   | 0    | 0    | 20       | 0 | 1227 | 0   | 0   | 0   | 0   | 326  | 0   | 11  | 0  | 0   | 0 | 0   | 26   | 0   | 0   | 0   | 0  | 0   | 1590 |
| 376 Syracuse | 0 | 29   | 29   | 0   | 0    | 0    | 20       | 0 | 62   | 0   | 11  | 26  | 0   | 26   | 0   | 0   | 24 | 13  | 0 | 0   | 34   | 41  | 17  | 0   | 0  | 0   | 254  |
| 377 Syracuse | 0 | 101  | 101  | 0   | 81   | 81   | 20       | 0 | 85   | 0   | 0   | 36  | 434 | 628  | 450 | 0   | 50 | 9   | 0 | 0   | 92   | 57  | 0   | 233 | 0  | 0   | 2074 |
| 378 Syracuse | 0 | 190  | 0    | 190 | 188  | 188  | 20       | 0 | 0    | 0   | 2   | 0   | 139 | 0    | 356 | 645 | 41 | 30  | 0 | 0   | 21   | 25  | 0   | 0   | 0  | 7   | 1266 |
| 379 Syracuse | 0 | 24   | 0    | 24  | 124  | 124  | 20       | 0 | 1    | 0   | 3   | 0   | 48  | 0    | 385 | 366 | 43 | 32  | 0 | 0   | 1    | 0   | 22  | 0   | 0  | 9   | 910  |
| 380 Syracuse | 0 | 0    | 0    | 0   | 0    | 0    | 20       | 0 | 0    | 0   | 0   | 19  | 3   | 0    | 0   | 170 | 0  | 0   | 0 | 0   | 0    | 1   | 0   | 0   | 0  | 0   | 193  |
| 381 Syracuse | 0 | 0    | 0    | 0   | 0    | 0    | 20       | 0 | 0    | 0   | 0   | 43  | 6   | 0    | 0   | 337 | 0  | 0   | 0 | 0   | 0    | 0   | 0   | 0   | 0  | 0   | 386  |
| 382 Syracuse | 0 | 0    | 0    | 0   | 0    | 0    | 20       | 0 | 33   | 0   | 2   | 0   | 68  | 25   | 395 | 10  | 44 | 31  | 0 | 0   | 29   | 148 | 0   | 0   | 0  | 8   | 793  |
| 383 Geddes   | 0 | 174  | 170  | 4   | 389  | 285  | 2.828985 | 0 | 0    | 0   | 0   | 0   | 20  | 0    | 0   | 0   | 0  | 0   | 0 | 0   | 0    | 0   | 0   | 0   | 0  | 0   | 20   |
| 384 Syracuse | 0 | 108  | 108  | 0   | 296  | 55   | 15       | 0 | 33   | 5   | 3   | 9   | 217 | 29   | 102 | 30  | 0  | 73  | 0 | 4   | 46   | 9   | 0   | 20  | 0  | 117 | 697  |
| 385 Syracuse | 0 | 182  | 182  | 0   | 496  | 95   | 15       | 0 | 21   | 5   | 88  | 3   | 21  | 3    | 61  | 12  | 0  | 27  | 0 | 3   | 155  | 9   | 0   | 13  | 0  | 21  | 442  |
| 386 Dewitt   | 0 | 164  | 160  | 4   | 423  | 268  | 0.076502 | 0 | 614  | 285 | 46  | 0   | 17  | 1454 | 6   | 3   | 0  | 8   | 0 | 217 | 176  | 21  | 0   | 12  | 3  | 35  | 2897 |
| 387 Dewitt   | 0 | 113  | 113  | 0   | 253  | 165  | 0.076502 | 0 | 167  | 209 | 0   | 0   | 27  | 81   | 0   | 28  | 0  | 9   | 0 | 351 | 1310 | 36  | 0   | 19  | 5  | 7   | 2249 |
| 388 Syracuse | 0 | 153  | 153  | 0   | 99   | 58   | 15       | 0 | 0    | 0   | 14  | 0   | 0   | 22   | 0   | 28  | 0  | 0   | 0 | 0   | 2    | 0   | 0   | 0   | 0  | 0   | 66   |
| 389 Syracuse | 0 | 189  | 189  | 0   | 492  | 212  | 15       | 0 | 0    | 0   | 7   | 0   | 0   | 14   | 0   | 14  | 0  | 0   | 0 | 0   | 0    | 0   | 0   | 0   | 0  | 0   | 35   |
| 390 Syracuse | 0 | 145  | 145  | 0   | 212  | 148  | 20       | 0 | 0    | 0   | 24  | 0   | 0   | 43   | 0   | 62  | 0  | 0   | 0 | 0   | 0    | 0   | 0   | 0   | 0  | 0   | 129  |
| 391 Syracuse | 0 | 198  | 188  | 10  | 427  | 226  | 15       | 0 | 6    | 0   | 2   | 0   | 0   | 4    | 0   | 0   | 0  | 0   | 0 | 0   | 2    | 0   | 15  | 0   | 0  | 0   | 29   |
| 392 Syracuse | 0 | 39   | 39   | 0   | 77   | 42   | 20       | 0 | 13   | 0   | 11  | 0   | 0   | 17   | 0   | 6   | 0  | 0   | 0 | 0   | 5    | 0   | 0   | 0   | 0  | 0   | 52   |
| 393 Camillus | 0 | 28   | 28   | 0   | 50   | 39   | 0        | 0 | 0    | 0   | 187 | 0   | 12  | 0    | 0   | 0   | 0  | 0   | 0 | 0   | 1025 | 0   | 0   | 0   | 0  | 0   | 1224 |
| 394 Camillus | 0 | 387  | 384  | 3   | 945  | 687  | 2.437705 | 0 | 20   | 0   | 0   | 53  | 0   | 0    | 0   | 24  | 33 | 0   | 0 | 0   | 0    | 0   | 19  | 0   | 0  | 0   | 149  |
| 395 Syracuse | 0 | 0    | 0    | 0   | 0    | 0    | 15       | 4 | 262  | 428 | 24  | 94  | 42  | 191  | 3   | 1   | 11 | 164 | 0 | 0   | 0    | 38  | 1   | 1   | 1  | 9   | 1274 |
| 396 Syracuse | 0 | 145  | 145  | 0   | 93   | 49   | 15       | 6 | 245  | 108 | 18  | 409 | 12  | 96   | 3   | 138 | 50 | 29  | 0 | 0   | 83   | 67  | 33  | 5   | 2  | 16  | 1320 |
| 397 Syracuse | 0 | 184  | 184  | 0   | 176  | 87   | 15       | 0 | 5    | 0   | 5   | 49  | 0   | 61   | 0   | 0   | 7  | 0   | 0 | 0   | 7    | 130 | 1   | 6   | 0  | 0   | 271  |
| 398 Camillus | 0 | 1306 | 1302 | 4   | 2922 | 2050 | 1.364506 | 0 | 79   | 0   | 6   | 0   | 0   | 109  | 17  | 61  | 0  | 0   | 0 | 0   | 365  | 10  | 90  | 0   | 68 | 0   | 805  |
| 399 Syracuse | 0 | 459  | 456  | 3   | 1251 | 503  | 8.910176 | 0 | 0    | 0   | 0   | 0   | 17  | 0    | 0   | 0   | 0  | 0   | 0 | 0   | 0    | 3   | 0   | 0   | 0  | 0   | 20   |
| 400 Syracuse | 0 | 123  | 119  | 4   | 234  | 98   | 15       | 0 | 5    | 0   | 0   | 8   | 0   | 0    | 0   | 0   | 0  | 0   | 0 | 0   | 10   | 0   | 0   | 0   | 0  | 0   | 23   |
| 401 Syracuse | 0 | 21   | 21   | 0   | 53   | 22   | 15       | 0 | 5    | 0   | 24  | 24  | 0   | 30   | 0   | 10  | 0  | 0   | 0 | 0   | 24   | 0   | 0   | 0   | 0  | 0   | 117  |
| 402 Camillus | 0 | 638  | 634  | 4   | 1288 | 958  | 1.400718 | 0 | 26   | 0   | 0   | 39  | 148 | 159  | 0   | 83  | 0  | 85  | 0 | 0   | 91   | 22  | 0   | 7   | 52 | 0   | 712  |
| 403 Syracuse | 0 | 0    | 0    | 0   | 0    | 0    | 20       | 0 | 87   | 0   | 0   | 0   | 10  | 0    | 0   | 56  | 0  | 0   | 0 | 0   | 0    | 14  | 0   | 0   | 0  | 0   | 167  |
| 404 Syracuse | 0 | 132  | 132  | 0   | 315  | 234  | 20       | 0 | 1    | 0   | 0   | 0   | 1   | 0    | 0   | 13  | 0  | 0   | 0 | 0   | 0    | 1   | 76  | 0   | 0  | 0   | 92   |
| 405 Syracuse | 0 | 229  | 229  | 0   | 15   | 8    | 20       | 0 | 110  | 0   | 0   | 22  | 7   | 0    | 0   | 78  | 0  | 0   | 0 | 0   | 110  | 60  | 0   | 0   | 0  | 0   | 387  |
| 406 Syracuse | 0 | 66   | 66   | 0   | 125  | 81   | 2.099814 | 0 | 1    | 0   | 0   | 0   | 0   | 0    | 0   | 0   | 0  | 0   | 0 | 0   | 0    | 0   | 0   | 0   | 0  | 0   | 1    |
| 407 Syracuse | 0 | 215  | 213  | 2   | 454  | 292  | 2.099814 | 0 | 0    | 0   | 0   | 4   | 0   | 0    | 0   | 0   | 0  | 0   | 0 | 0   | 0    | 0   | 0   | 0   | 0  | 0   | 4    |
| 408 Syracuse | 0 | 3    | 0    | 3   | 0    | 0    | 20       | 0 | 68   | 0   | 0   | 0   | 59  | 0    | 45  | 0   |    |     |   |     |      |     |     |     |    |     |      |



|              |   |     |     |    |      |      |          |   |     |    |     |     |    |      |     |     |    |     |   |   |     |     |     |     |     |     |      |
|--------------|---|-----|-----|----|------|------|----------|---|-----|----|-----|-----|----|------|-----|-----|----|-----|---|---|-----|-----|-----|-----|-----|-----|------|
| 427 Syracuse | 0 | 4   | 4   | 0  | 7    | 4    | 20       | 0 | 28  | 0  | 2   | 17  | 0  | 0    | 10  | 0   | 0  | 0   | 1 | 0 | 28  | 0   | 0   | 0   | 0   | 86  |      |
| 428 Syracuse | 0 | 28  | 28  | 0  | 77   | 32   | 15       | 0 | 26  | 0  | 41  | 0   | 0  | 31   | 82  | 27  | 0  | 72  | 0 | 2 | 78  | 1   | 9   | 12  | 0   | 92  | 473  |
| 429 Syracuse | 0 | 191 | 191 | 0  | 503  | 203  | 14.58859 | 0 | 6   | 0  | 15  | 4   | 0  | 70   | 23  | 6   | 0  | 70  | 0 | 0 | 17  | 6   | 6   | 39  | 0   | 4   | 266  |
| 430 Syracuse | 0 | 136 | 136 | 0  | 99   | 47   | 14.58859 | 0 | 6   | 0  | 8   | 2   | 0  | 51   | 0   | 4   | 2  | 254 | 0 | 0 | 10  | 0   | 2   | 61  | 0   | 91  | 491  |
| 431 Syracuse | 0 | 3   | 0   | 3  | 3    | 3    | 14.58859 | 0 | 4   | 0  | 24  | 6   | 12 | 106  | 221 | 2   | 3  | 14  | 0 | 0 | 22  | 6   | 1   | 82  | 0   | 20  | 523  |
| 432 Syracuse | 0 | 35  | 35  | 0  | 93   | 39   | 15       | 0 | 0   | 0  | 0   | 0   | 0  | 0    | 27  | 15  | 0  | 7   | 0 | 0 | 0   | 0   | 0   | 0   | 0   | 0   | 49   |
| 433 Syracuse | 0 | 15  | 15  | 0  | 40   | 14   | 15       | 0 | 0   | 0  | 0   | 0   | 0  | 0    | 0   | 0   | 0  | 0   | 0 | 0 | 8   | 0   | 0   | 0   | 0   | 0   | 8    |
| 434 Syracuse | 0 | 177 | 177 | 0  | 388  | 179  | 15       | 0 | 12  | 0  | 7   | 0   | 0  | 0    | 0   | 12  | 0  | 23  | 0 | 0 | 22  | 0   | 0   | 0   | 2   | 0   | 78   |
| 435 Syracuse | 0 | 5   | 5   | 0  | 8    | 5    | 20       | 0 | 3   | 3  | 0   | 0   | 19 | 0    | 640 | 0   | 0  | 1   | 0 | 0 | 0   | 15  | 11  | 0   | 0   | 7   | 699  |
| 436 Syracuse | 0 | 0   | 0   | 0  | 0    | 0    | 20       | 0 | 4   | 13 | 0   | 0   | 0  | 0    | 0   | 0   | 0  | 7   | 0 | 0 | 2   | 3   | 0   | 0   | 0   | 4   | 33   |
| 437 Syracuse | 0 | 0   | 0   | 0  | 0    | 0    | 15       | 0 | 0   | 0  | 0   | 0   | 0  | 0    | 0   | 0   | 0  | 0   | 0 | 0 | 3   | 15  | 14  | 0   | 0   | 5   | 37   |
| 438 Syracuse | 0 | 2   | 0   | 2  | 0    | 0    | 20       | 0 | 17  | 0  | 0   | 0   | 0  | 5    | 0   | 0   | 0  | 0   | 0 | 0 | 25  | 0   | 0   | 0   | 0   | 0   | 47   |
| 439 Syracuse | 0 | 82  | 82  | 0  | 157  | 102  | 2.536177 | 0 | 0   | 0  | 4   | 4   | 0  | 0    | 0   | 0   | 0  | 0   | 0 | 0 | 15  | 4   | 0   | 0   | 0   | 0   | 27   |
| 440 Syracuse | 0 | 206 | 206 | 0  | 431  | 275  | 2.536177 | 0 | 0   | 0  | 5   | 14  | 0  | 0    | 0   | 0   | 0  | 0   | 0 | 0 | 9   | 3   | 0   | 0   | 0   | 0   | 31   |
| 441 Solvay   | 0 | 110 | 110 | 0  | 164  | 129  | 0        | 1 | 112 | 42 | 20  | 104 | 0  | 43   | 0   | 21  | 0  | 58  | 0 | 0 | 125 | 25  | 0   | 0   | 0   | 3   | 554  |
| 442 Syracuse | 0 | 480 | 417 | 63 | 1161 | 506  | 4.90632  | 0 | 33  | 0  | 0   | 50  | 0  | 0    | 0   | 0   | 0  | 17  | 0 | 0 | 48  | 44  | 115 | 5   | 0   | 50  | 362  |
| 443 Syracuse | 0 | 431 | 428 | 3  | 1082 | 457  | 7.721142 | 0 | 97  | 0  | 9   | 63  | 9  | 0    | 0   | 0   | 0  | 49  | 0 | 0 | 27  | 53  | 0   | 0   | 7   | 11  | 325  |
| 444 Camillus | 0 | 238 | 238 | 0  | 544  | 406  | 7.235539 | 0 | 98  | 32 | 5   | 116 | 0  | 18   | 0   | 7   | 0  | 24  | 0 | 0 | 103 | 19  | 0   | 0   | 0   | 38  | 460  |
| 445 Syracuse | 0 | 0   | 0   | 0  | 0    | 0    | 15       | 0 | 4   | 0  | 384 | 0   | 0  | 4    | 0   | 4   | 0  | 9   | 0 | 0 | 131 | 4   | 4   | 0   | 0   | 14  | 558  |
| 446 Dewitt   | 0 | 24  | 24  | 0  | 56   | 37   | 0.332182 | 0 | 217 | 0  | 205 | 38  | 0  | 20   | 20  | 28  | 0  | 222 | 0 | 0 | 234 | 180 | 6   | 100 | 0   | 132 | 1402 |
| 447 Geddes   | 0 | 200 | 200 | 0  | 504  | 356  | 4.241554 | 0 | 23  | 0  | 0   | 113 | 0  | 0    | 0   | 0   | 0  | 0   | 0 | 0 | 47  | 8   | 0   | 0   | 0   | 0   | 191  |
| 448 Geddes   | 0 | 144 | 137 | 7  | 290  | 220  | 2.74395  | 0 | 0   | 0  | 0   | 0   | 0  | 0    | 0   | 0   | 0  | 0   | 0 | 0 | 28  | 0   | 0   | 0   | 0   | 0   | 28   |
| 449 Syracuse | 0 | 49  | 49  | 0  | 18   | 7    | 7.532137 | 0 | 3   | 0  | 3   | 12  | 0  | 39   | 17  | 6   | 0  | 21  | 0 | 0 | 3   | 0   | 7   | 0   | 0   | 29  | 140  |
| 450 Manlius  | 0 | 593 | 593 | 0  | 1470 | 1152 | 0.000036 | 0 | 17  | 0  | 0   | 0   | 0  | 39   | 0   | 0   | 0  | 0   | 0 | 0 | 62  | 0   | 0   | 0   | 0   | 0   | 118  |
| 451 Solvay   | 0 | 840 | 835 | 5  | 1769 | 1284 | 2.675367 | 0 | 12  | 0  | 0   | 0   | 77 | 11   | 0   | 5   | 0  | 0   | 0 | 0 | 0   | 0   | 11  | 0   | 0   | 0   | 116  |
| 452 Manlius  | 0 | 666 | 666 | 0  | 1348 | 1177 | 0.006161 | 0 | 0   | 0  | 62  | 5   | 0  | 2    | 0   | 12  | 0  | 0   | 0 | 5 | 23  | 5   | 20  | 0   | 0   | 0   | 134  |
| 453 Syracuse | 0 | 2   | 2   | 0  | 2    | 1    | 15       | 0 | 127 | 0  | 0   | 0   | 0  | 31   | 0   | 0   | 0  | 0   | 0 | 0 | 28  | 7   | 0   | 15  | 23  | 0   | 231  |
| 454 Syracuse | 0 | 135 | 135 | 0  | 144  | 65   | 20       | 0 | 341 | 46 | 34  | 82  | 0  | 318  | 448 | 166 | 0  | 61  | 0 | 0 | 62  | 50  | 33  | 0   | 0   | 0   | 1641 |
| 455 Syracuse | 0 | 6   | 6   | 0  | 13   | 6    | 15       | 0 | 10  | 13 | 0   | 13  | 0  | 32   | 0   | 4   | 0  | 60  | 0 | 0 | 8   | 30  | 19  | 136 | 0   | 51  | 376  |
| 456 Syracuse | 0 | 3   | 3   | 0  | 3    | 2    | 7.307918 | 0 | 1   | 0  | 11  | 0   | 0  | 0    | 0   | 4   | 0  | 6   | 0 | 0 | 10  | 20  | 10  | 0   | 0   | 20  | 82   |
| 457 Syracuse | 0 | 29  | 29  | 0  | 35   | 19   | 7.307918 | 0 | 4   | 0  | 4   | 0   | 0  | 0    | 0   | 14  | 0  | 0   | 0 | 0 | 95  | 20  | 36  | 0   | 0   | 4   | 177  |
| 458 Syracuse | 0 | 95  | 95  | 0  | 153  | 109  | 1.687125 | 0 | 0   | 0  | 0   | 5   | 0  | 0    | 0   | 0   | 0  | 2   | 0 | 0 | 0   | 0   | 3   | 0   | 0   | 0   | 10   |
| 459 Syracuse | 0 | 262 | 262 | 0  | 524  | 350  | 1.687125 | 0 | 0   | 0  | 0   | 27  | 0  | 60   | 0   | 19  | 0  | 14  | 0 | 0 | 0   | 0   | 13  | 0   | 0   | 14  | 147  |
| 460 Syracuse | 0 | 175 | 175 | 0  | 206  | 103  | 15       | 0 | 149 | 8  | 15  | 48  | 11 | 12   | 16  | 86  | 0  | 52  | 0 | 0 | 0   | 54  | 38  | 6   | 0   | 0   | 495  |
| 461 Syracuse | 0 | 0   | 0   | 0  | 0    | 0    | 15       | 0 | 63  | 0  | 0   | 0   | 0  | 2024 | 0   | 0   | 0  | 0   | 0 | 0 | 0   | 0   | 0   | 0   | 652 | 0   | 2739 |
| 462 Syracuse | 0 | 0   | 0   | 0  | 0    | 0    | 15       | 0 | 0   | 0  | 0   | 0   | 0  | 0    | 0   | 0   | 0  | 199 | 0 | 0 | 0   | 27  | 0   | 0   | 0   | 0   | 226  |
| 463 Syracuse | 0 | 0   | 0   | 0  | 0    | 0    | 20       | 0 | 58  | 0  | 0   | 0   | 0  | 0    | 393 | 0   | 0  | 0   | 0 | 0 | 0   | 0   | 0   | 0   | 0   | 0   | 451  |
| 464 Syracuse | 0 | 212 | 212 | 0  | 43   | 23   | 15       | 0 | 102 | 0  | 0   | 0   | 0  | 210  | 375 | 0   | 0  | 0   | 0 | 0 | 10  | 34  | 12  | 3   | 34  | 102 | 882  |
| 465 Syracuse | 0 | 8   | 8   | 0  | 13   | 7    | 9.117903 | 0 | 1   | 0  | 50  | 0   | 0  | 0    | 0   | 0   | 0  | 18  | 0 | 0 | 5   | 6   | 0   | 0   | 0   | 6   | 86   |
| 466 Syracuse | 0 | 200 | 198 | 2  | 316  | 129  | 15       | 4 | 150 | 45 | 22  | 33  | 4  | 16   | 0   | 114 | 4  | 13  | 0 | 0 | 17  | 79  | 31  | 0   | 0   | 25  | 557  |
| 467 Syracuse | 0 | 0   | 0   | 0  | 0    | 0    | 15       | 0 | 5   | 0  | 0   | 0   | 0  | 0    | 0   | 202 | 0  | 0   | 0 | 0 | 0   | 0   | 46  | 0   | 0   | 0   | 253  |
| 468 Syracuse | 0 | 154 | 154 | 0  | 162  | 63   | 15       | 0 | 7   | 0  | 4   | 0   | 0  | 0    | 0   | 0   | 14 | 13  | 0 | 0 | 4   | 31  | 0   | 0   | 0   | 0   | 73   |
| 469 Syracuse | 0 | 127 | 127 | 0  | 193  | 68   |          |   |     |    |     |     |    |      |     |     |    |     |   |   |     |     |     |     |     |     |      |



|                 |   |     |     |     |      |               |   |     |     |     |     |     |     |     |     |    |     |   |    |     |     |    |     |    |     |      |
|-----------------|---|-----|-----|-----|------|---------------|---|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|---|----|-----|-----|----|-----|----|-----|------|
| 488 Elbridge    | 0 | 340 | 336 | 4   | 821  | 648 3.376906  | 2 | 7   | 0   | 27  | 57  | 145 | 19  | 0   | 26  | 0  | 0   | 0 | 7  | 65  | 5   | 0  | 0   | 0  | 21  | 381  |
| 489 Syracuse    | 0 | 113 | 113 | 0   | 158  | 61 15         | 0 | 124 | 0   | 11  | 90  | 44  | 69  | 0   | 0   | 0  | 34  | 0 | 9  | 68  | 9   | 0  | 23  | 0  | 0   | 481  |
| 490 Syracuse    | 0 | 328 | 328 | 0   | 727  | 227 14.17692  | 3 | 63  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0   | 0 | 0  | 20  | 0   | 12 | 0   | 0  | 0   | 98   |
| 491 Syracuse    | 0 | 427 | 398 | 29  | 609  | 253 15        | 0 | 80  | 0   | 7   | 19  | 0   | 7   | 0   | 257 | 0  | 0   | 0 | 0  | 8   | 13  | 0  | 0   | 0  | 0   | 391  |
| 492 Syracuse    | 0 | 340 | 330 | 10  | 422  | 183 15        | 0 | 53  | 0   | 0   | 13  | 0   | 37  | 0   | 182 | 0  | 0   | 0 | 0  | 15  | 12  | 0  | 0   | 0  | 0   | 312  |
| 493 Syracuse    | 0 | 0   | 0   | 0   | 0    | 0 4.748782    | 0 | 256 | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0   | 0 | 0  | 0   | 0   | 0  | 0   | 0  | 0   | 256  |
| 494 Syracuse    | 0 | 269 | 269 | 0   | 231  | 218 0         | 2 | 100 | 765 | 74  | 12  | 0   | 481 | 9   | 0   | 0  | 34  | 0 | 54 | 33  | 27  | 7  | 243 | 79 | 45  | 1965 |
| 495 Syracuse    | 0 | 65  | 65  | 0   | 68   | 47 0          | 0 | 0   | 64  | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0   | 0 | 1  | 0   | 2   | 0  | 0   | 0  | 9   | 76   |
| 496 Syracuse    | 0 | 286 | 286 | 0   | 687  | 281 2.288757  | 0 | 3   | 5   | 25  | 81  | 51  | 4   | 46  | 0   | 0  | 93  | 0 | 0  | 10  | 26  | 0  | 0   | 0  | 49  | 393  |
| 497 Syracuse    | 0 | 144 | 143 | 1   | 326  | 145 2.288757  | 0 | 4   | 2   | 0   | 0   | 0   | 0   | 14  | 0   | 0  | 27  | 0 | 0  | 2   | 0   | 45 | 0   | 0  | 0   | 94   |
| 498 Syracuse    | 0 | 222 | 222 | 0   | 259  | 119 7.087175  | 0 | 162 | 174 | 0   | 30  | 0   | 73  | 0   | 566 | 0  | 0   | 0 | 0  | 10  | 6   | 9  | 0   | 0  | 0   | 1030 |
| 499 Syracuse    | 0 | 180 | 175 | 5   | 294  | 118 7.087175  | 0 | 43  | 325 | 28  | 10  | 20  | 34  | 0   | 105 | 0  | 0   | 0 | 0  | 18  | 52  | 17 | 0   | 0  | 0   | 652  |
| 500 Syracuse    | 0 | 583 | 579 | 4   | 1186 | 755 2.782117  | 2 | 41  | 9   | 30  | 82  | 0   | 2   | 0   | 8   | 0  | 8   | 0 | 0  | 100 | 179 | 0  | 0   | 0  | 92  | 553  |
| 501 Syracuse    | 0 | 0   | 0   | 0   | 0    | 0 2.782117    | 0 | 15  | 3   | 0   | 290 | 0   | 15  | 0   | 220 | 0  | 0   | 0 | 0  | 538 | 4   | 0  | 0   | 0  | 17  | 1102 |
| 502 Solvay      | 0 | 627 | 627 | 0   | 1479 | 1034 0.488924 | 8 | 11  | 0   | 6   | 28  | 0   | 4   | 33  | 0   | 0  | 42  | 0 | 0  | 15  | 9   | 0  | 0   | 0  | 84  | 240  |
| 503 Syracuse    | 0 | 45  | 45  | 0   | 62   | 25 15         | 0 | 14  | 0   | 0   | 21  | 0   | 53  | 0   | 0   | 0  | 0   | 0 | 0  | 26  | 29  | 0  | 0   | 0  | 0   | 143  |
| 504 Syracuse    | 0 | 302 | 250 | 52  | 900  | 276 15        | 0 | 12  | 0   | 6   | 121 | 222 | 0   | 0   | 12  | 0  | 0   | 0 | 0  | 68  | 23  | 0  | 0   | 0  | 0   | 464  |
| 505 Solvay      | 0 | 728 | 727 | 1   | 1680 | 1173 0.482925 | 0 | 25  | 6   | 0   | 19  | 268 | 9   | 0   | 0   | 0  | 0   | 0 | 0  | 51  | 29  | 0  | 0   | 0  | 0   | 407  |
| 506 Camillus    | 0 | 195 | 195 | 0   | 377  | 293 2.390576  | 0 | 0   | 0   | 0   | 0   | 0   | 33  | 11  | 20  | 0  | 0   | 0 | 0  | 0   | 0   | 0  | 0   | 0  | 0   | 64   |
| 507 Syracuse    | 0 | 0   | 0   | 0   | 0    | 0 0.628943    | 0 | 7   | 0   | 72  | 0   | 0   | 0   | 0   | 0   | 0  | 0   | 0 | 0  | 73  | 15  | 0  | 53  | 0  | 0   | 220  |
| 508 Syracuse    | 0 | 287 | 287 | 0   | 192  | 187 13.11086  | 4 | 46  | 0   | 95  | 162 | 0   | 0   | 0   | 0   | 0  | 138 | 0 | 0  | 199 | 46  | 0  | 13  | 0  | 79  | 782  |
| 509 Syracuse    | 0 | 90  | 90  | 0   | 84   | 67 0.670655   | 0 | 10  | 0   | 169 | 0   | 0   | 0   | 18  | 0   | 0  | 21  | 0 | 0  | 30  | 26  | 0  | 9   | 0  | 42  | 325  |
| 510 Syracuse    | 0 | 443 | 338 | 105 | 554  | 236 6.352946  | 2 | 57  | 0   | 0   | 0   | 72  | 255 | 75  | 84  | 0  | 5   | 0 | 0  | 0   | 35  | 37 | 0   | 0  | 0   | 622  |
| 511 Syracuse    | 0 | 111 | 111 | 0   | 175  | 72 6.352946   | 0 | 116 | 0   | 0   | 0   | 0   | 46  | 0   | 12  | 0  | 0   | 0 | 0  | 0   | 18  | 55 | 0   | 0  | 0   | 247  |
| 512 Syracuse    | 0 | 363 | 363 | 0   | 779  | 529 3.546869  | 0 | 15  | 9   | 11  | 10  | 152 | 0   | 0   | 0   | 0  | 246 | 0 | 0  | 9   | 0   | 0  | 0   | 0  | 19  | 471  |
| 513 East Syracu | 0 | 15  | 15  | 0   | 23   | 13 4.514478   | 0 | 188 | 0   | 27  | 74  | 193 | 34  | 0   | 79  | 0  | 20  | 0 | 0  | 359 | 90  | 24 | 38  | 0  | 71  | 1197 |
| 514 Syracuse    | 0 | 566 | 566 | 0   | 1294 | 670 3.967118  | 0 | 5   | 0   | 0   | 3   | 13  | 14  | 0   | 0   | 0  | 0   | 0 | 0  | 2   | 6   | 0  | 0   | 0  | 0   | 43   |
| 515 Syracuse    | 0 | 103 | 103 | 0   | 186  | 78 14.35493   | 0 | 64  | 0   | 7   | 0   | 0   | 16  | 0   | 4   | 0  | 0   | 0 | 11 | 73  | 10  | 67 | 7   | 0  | 25  | 284  |
| 516 Solvay      | 0 | 0   | 0   | 0   | 0    | 0 2.838104    | 1 | 41  | 0   | 8   | 0   | 0   | 5   | 0   | 1   | 0  | 539 | 0 | 0  | 3   | 12  | 0  | 1   | 94 | 3   | 708  |
| 517 Solvay      | 0 | 471 | 471 | 0   | 1099 | 700 2.838104  | 0 | 23  | 0   | 10  | 10  | 8   | 165 | 300 | 18  | 0  | 0   | 0 | 0  | 0   | 15  | 7  | 0   | 0  | 20  | 576  |
| 518 Syracuse    | 0 | 0   | 0   | 0   | 0    | 0 0.262022    | 0 | 14  | 0   | 12  | 0   | 0   | 0   | 0   | 0   | 0  | 108 | 0 | 0  | 22  | 20  | 0  | 161 | 0  | 57  | 394  |
| 519 East Syracu | 0 | 85  | 85  | 0   | 185  | 115 10.78222  | 5 | 0   | 0   | 266 | 0   | 0   | 0   | 0   | 0   | 0  | 25  | 0 | 8  | 8   | 4   | 0  | 15  | 0  | 21  | 352  |
| 520 Syracuse    | 0 | 396 | 396 | 0   | 698  | 521 4.34803   | 1 | 56  | 0   | 12  | 54  | 0   | 3   | 0   | 3   | 0  | 4   | 0 | 0  | 67  | 44  | 9  | 0   | 0  | 27  | 280  |
| 521 Dewitt      | 0 | 0   | 0   | 0   | 0    | 0 1.990188    | 0 | 0   | 0   | 0   | 58  | 0   | 0   | 0   | 0   | 0  | 55  | 0 | 0  | 95  | 14  | 0  | 65  | 0  | 120 | 407  |
| 522 Syracuse    | 0 | 380 | 276 | 104 | 984  | 319 14.07796  | 0 | 5   | 0   | 12  | 48  | 27  | 0   | 14  | 36  | 0  | 0   | 0 | 0  | 113 | 16  | 0  | 0   | 0  | 39  | 310  |
| 523 Syracuse    | 0 | 333 | 333 | 0   | 992  | 211 2.276632  | 0 | 2   | 0   | 0   | 0   | 0   | 6   | 0   | 5   | 0  | 0   | 0 | 0  | 28  | 0   | 0  | 0   | 0  | 2   | 43   |
| 524 Syracuse    | 0 | 596 | 587 | 9   | 1552 | 384 3.705318  | 0 | 8   | 0   | 0   | 41  | 0   | 0   | 0   | 0   | 0  | 0   | 0 | 0  | 0   | 0   | 67 | 0   | 0  | 0   | 116  |
| 525 Syracuse    | 0 | 483 | 483 | 0   | 1104 | 697 5.150197  | 0 | 4   | 0   | 0   | 0   | 260 | 6   | 0   | 0   | 0  | 0   | 0 | 0  | 6   | 0   | 0  | 0   | 0  | 0   | 276  |
| 1114 Camillus   | 0 | 280 | 280 | 0   | 346  | 241 0         | 0 | 0   | 0   | 0   | 214 | 0   | 6   | 0   | 17  | 27 | 0   | 0 | 0  | 414 | 0   | 0  | 0   | 0  | 0   | 678  |
| 1113 Camillus   | 0 | 160 | 160 | 0   | 417  | 290 0         | 0 | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0   | 0 | 0  | 0   | 0   | 0  | 0   | 0  | 0   | 0    |
| 527 Syracuse    | 0 | 363 | 363 | 0   | 1070 | 337 12.60583  | 0 | 0   | 0   | 0   | 29  | 107 | 4   | 0   | 0   | 0  | 8   | 0 | 0  | 13  | 8   | 8  | 0   | 0  | 8   | 185  |
| 528 Syracuse    | 0 | 479 | 479 | 0   | 1001 | 686 2.235939  | 0 | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0   | 0 | 0  | 0   | 0   | 0  | 0   | 0  | 0   | 0    |
| 529 Syracuse    | 0 | 260 | 260 | 0   | 591  | 399 0.087182  | 0 | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0   | 0 | 0  | 0   | 0   | 6  | 0   | 0  | 0   | 6    |
| 530 Syracuse    | 0 | 0   | 0   | 0   | 0    | 0 0.234723    | 0 | 0   | 0   | 0   | 0   | 0   | 0   | 53  | 0   | 0  | 0   | 0 | 0  | 0   | 6   | 0  | 0   | 0  | 0   | 59   |
| 531 Syracuse    | 0 | 1   | 0   | 1   | 1    | 1 0.098596    | 0 | 5   | 0   | 2   | 8   | 0   | 14  | 7   | 0   | 0  | 90  | 0 | 0  | 14  | 2   | 0  | 34  | 14 | 15  | 205  |
| 532 Syracuse    | 0 | 402 | 402 | 0   | 1066 | 351 5.82436   | 0 | 6   | 0   | 0   | 11  | 0   | 0   | 0   | 0   | 0  | 0   | 0 | 0  | 5   | 0   | 0  | 0   | 0  | 0   | 22   |
| 533 Manlius     | 0 | 733 | 728 | 5   | 1875 | 1361 1.377006 | 0 | 27  | 0   | 0   | 0   | 173 | 57  | 0   | 0   | 0  | 0   | 0 | 0  | 18  | 8   | 0  | 0   | 0  | 0   | 283  |
| 534 Syracuse    | 0 | 299 | 299 | 0   | 0    | 0 0.217766    | 0 | 19  | 0   | 0   | 11  | 0   | 0   | 0   | 0   | 0  | 0   | 0 | 0  | 21  | 326 | 0  | 4   | 0  | 0   | 381  |
| 535 Syracuse    | 0 | 276 | 276 | 0   | 600  | 411 6.808841  | 0 | 10  | 0   | 7   | 0   | 0   | 0   | 0   | 0   | 0  | 0   | 0 | 0  | 0   | 0   | 0  | 0   | 0  | 0   | 17   |
| 536 East Syracu | 0 | 6   | 0   | 6   | 6    | 6 9.694251    | 2 | 43  | 0   | 8   | 0   | 0   | 9   | 0   | 0   | 0  | 527 | 0 | 0  | 2   | 5   | 65 | 0   | 12 | 0   | 673  |
| 537 Syracuse    | 0 | 347 | 345 | 2   | 797  | 522 0.037295  | 0 | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0   | 0 | 0  | 4   | 0   | 0  | 0   | 0  | 0   | 4    |
| 538 Syracuse    | 0 | 274 | 274 | 0   | 761  | 246 7.127296  | 0 | 5   | 0   | 54  | 38  | 0   | 21  | 0   | 0   | 0  | 20  | 0 | 0  | 14  | 10  | 5  | 0   | 0  | 10  | 177  |
| 539 Syracuse    | 0 | 206 | 206 | 0   | 658  | 198 6.05977   | 0 | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0   | 0 | 0  | 0   | 0   | 0  | 0   | 0  | 0   | 0    |
| 540 Syracuse    | 0 | 300 | 300 | 0   | 722  | 524 0.195971  | 0 | 24  | 0   | 0   | 0   | 0   | 0   | 0   | 5   | 0  | 0   | 0 | 0  | 0   | 11  | 0  | 0   | 0  | 0   | 40   |
| 541 Syracuse    | 0 | 104 | 104 | 0   | 255  | 186 0.513808  | 0 | 0   | 0   | 0   | 0   | 100 | 0   | 0   | 3   | 0  | 3   | 0 | 0  | 0   | 0   | 0  | 20  | 0  | 0   | 126  |
| 542 Syracuse    | 0 | 444 | 444 | 0   | 976  | 668 2.273101  | 0 | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 13  | 0  | 0   | 0 | 0  | 0   | 0   | 0  | 0   | 0  | 0   | 13   |
| 543 East Syracu | 0 | 499 | 499 | 0   | 1118 | 669 4.525058  | 0 | 22  | 12  | 0   | 35  | 102 | 18  | 0   | 0   | 0  | 24  | 0 | 12 | 21  | 22  | 0  | 0   | 18 | 0   | 286  |
| 544 Syracuse    | 0 | 361 | 357 | 4   | 737  | 513 1.991434  | 0 | 0   | 0   | 33  | 22  | 0   | 0   | 0   | 0   | 0  | 11  | 0 | 0  | 94  | 0   | 0  | 0   | 0  | 16  | 176  |
| 545 Syracuse    | 0 | 348 | 348 | 0   | 925  | 429 10.77716  | 0 | 3   | 25  | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0   | 0 | 0  | 31  | 0   | 0  | 0   | 0  | 0   | 59   |
| 546 Syracuse    | 0 | 0   | 0   | 0   | 0    | 0 1.636022    | 2 | 47  | 9   | 21  | 30  | 57  | 38  | 24  | 56  | 70 | 49  | 0 | 3  | 62  | 31  | 11 | 23  | 3  | 25  | 561  |
| 547 Syracuse    | 0 | 371 | 371 | 0   | 724  | 501 7.534382  | 0 | 6   | 0   | 0   | 0   | 0   | 0   | 0   | 103 | 0  | 0   | 0 | 0  | 11  | 56  | 0  | 0   | 0  | 6   | 182  |



|                   |   |     |     |    |      |     |          |   |    |    |    |     |     |     |    |     |   |     |   |     |    |    |    |    |   |     |     |
|-------------------|---|-----|-----|----|------|-----|----------|---|----|----|----|-----|-----|-----|----|-----|---|-----|---|-----|----|----|----|----|---|-----|-----|
| 548 East Syracuse | 0 | 318 | 318 | 0  | 717  | 428 | 3.157316 | 2 | 57 | 0  | 46 | 12  | 8   | 2   | 0  | 10  | 3 | 103 | 0 | 0   | 8  | 72 | 5  | 3  | 4 | 17  | 352 |
| 549 East Syracuse | 0 | 441 | 439 | 2  | 972  | 590 | 3.157316 | 2 | 36 | 13 | 31 | 12  | 104 | 16  | 55 | 48  | 3 | 8   | 0 | 0   | 25 | 21 | 13 | 2  | 2 | 3   | 394 |
| 550 Geddes        | 0 | 108 | 108 | 0  | 232  | 188 | 2.865304 | 0 | 0  | 0  | 14 | 5   | 0   | 0   | 0  | 0   | 0 | 235 | 0 | 116 | 41 | 5  | 0  | 0  | 7 | 55  | 478 |
| 551 Syracuse      | 0 | 186 | 186 | 0  | 442  | 154 | 6.808968 | 0 | 66 | 0  | 90 | 0   | 0   | 0   | 0  | 0   | 0 | 0   | 0 | 0   | 57 | 0  | 0  | 0  | 0 | 52  | 265 |
| 552 Syracuse      | 0 | 290 | 290 | 0  | 815  | 347 | 9.878653 | 0 | 0  | 0  | 0  | 0   | 0   | 0   | 0  | 0   | 0 | 0   | 0 | 0   | 2  | 2  | 0  | 0  | 0 | 6   | 10  |
| 553 Syracuse      | 0 | 363 | 328 | 35 | 805  | 541 | 0.018533 | 0 | 79 | 0  | 10 | 10  | 30  | 103 | 0  | 108 | 0 | 5   | 0 | 0   | 16 | 39 | 32 | 0  | 0 | 5   | 437 |
| 554 Syracuse      | 0 | 409 | 406 | 3  | 1084 | 357 | 6.594307 | 0 | 0  | 0  | 8  | 8   | 10  | 0   | 0  | 0   | 0 | 0   | 0 | 0   | 1  | 7  | 36 | 0  | 0 | 15  | 85  |
| 555 Camillus      | 0 | 493 | 485 | 8  | 745  | 569 | 2.382616 | 0 | 0  | 0  | 5  | 115 | 0   | 0   | 0  | 0   | 0 | 0   | 0 | 0   | 3  | 7  | 0  | 74 | 0 | 0   | 204 |
| 556 Camillus      | 0 | 377 | 377 | 0  | 761  | 611 | 0.001992 | 1 | 5  | 0  | 0  | 0   | 0   | 0   | 9  | 0   | 0 | 8   | 0 | 0   | 0  | 2  | 0  | 2  | 0 | 0   | 27  |
| 557 Camillus      | 0 | 194 | 194 | 0  | 328  | 271 | 0.001992 | 0 | 0  | 0  | 0  | 0   | 284 | 0   | 0  | 0   | 0 | 0   | 0 | 0   | 5  | 16 | 12 | 0  | 0 | 0   | 317 |
| 558 Syracuse      | 0 | 412 | 411 | 1  | 969  | 709 | 0.937122 | 0 | 0  | 0  | 0  | 0   | 0   | 0   | 0  | 0   | 0 | 0   | 0 | 0   | 0  | 0  | 0  | 0  | 0 | 16  | 16  |
| 559 Geddes        | 0 | 0   | 0   | 0  | 0    | 0   | 0        | 0 | 74 | 0  | 0  | 18  | 0   | 0   | 0  | 0   | 0 | 109 | 0 | 0   | 0  | 11 | 0  | 0  | 0 | 618 | 830 |
| 560 Manlius       | 0 | 172 | 172 | 0  | 358  | 287 | 0.001344 | 5 | 0  | 0  | 82 | 0   | 0   | 0   | 0  | 0   | 0 | 0   | 0 | 0   | 2  | 44 | 0  | 0  | 0 | 0   | 133 |
| 561 Syracuse      | 0 | 362 | 362 | 0  | 993  | 310 | 7.008668 | 0 | 0  | 0  | 6  | 13  | 0   | 0   | 0  | 0   | 0 | 0   | 0 | 0   | 0  | 0  | 0  | 0  | 0 | 3   | 22  |
| 562 Manlius       | 0 | 579 | 579 | 0  | 874  | 618 | 0.035299 | 0 | 0  | 0  | 0  | 0   | 0   | 0   | 0  | 0   | 0 | 0   | 0 | 0   | 49 | 0  | 0  | 0  | 0 | 0   | 49  |
| 563 Syracuse      | 0 | 623 | 623 | 0  | 1544 | 741 | 4.993106 | 3 | 15 | 0  | 0  | 33  | 0   | 0   | 0  | 0   | 0 | 11  | 0 | 2   | 7  | 10 | 0  | 0  | 0 | 0   | 81  |
| 564 Syracuse      | 0 | 232 | 232 | 0  | 569  | 317 | 5.831994 | 0 | 9  | 0  | 34 | 44  | 0   | 0   | 0  | 0   | 0 | 29  | 0 | 16  | 17 | 39 | 0  | 0  | 0 | 57  | 245 |
| 565 Syracuse      | 0 | 310 | 310 | 0  | 549  | 447 | 0.820069 | 0 | 0  | 0  | 0  | 0   | 105 | 0   | 0  | 0   | 0 | 0   | 0 | 0   | 0  | 0  | 9  | 0  | 0 | 0   | 114 |
| 566 Syracuse      | 0 | 269 | 269 | 0  | 592  | 447 | 0.716666 | 0 | 35 | 0  | 0  | 0   | 0   | 0   | 0  | 23  | 0 | 0   | 0 | 0   | 18 | 0  | 0  | 0  | 0 | 0   | 76  |
| 567 Syracuse      | 0 | 319 | 319 | 0  | 886  | 380 | 2.336335 | 0 | 0  | 0  | 0  | 0   | 0   | 0   | 0  | 26  | 0 | 0   | 0 | 0   | 0  | 0  | 0  | 0  | 0 | 0   | 26  |
| 568 Elbridge      | 0 | 81  | 81  | 0  | 196  | 157 | 2.746383 | 0 | 0  | 0  | 4  | 0   | 8   | 0   | 0  | 0   | 0 | 0   | 0 | 0   | 0  | 1  | 0  | 0  | 0 | 0   | 13  |



|               |   |     |     |    |      |      |          |    |     |     |     |     |     |     |     |     |     |      |    |     |     |     |    |     |   |     |      |
|---------------|---|-----|-----|----|------|------|----------|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|----|-----|-----|-----|----|-----|---|-----|------|
| 609 Salina    | 0 | 5   | 5   | 0  | 3    | 3    | 1.053001 | 0  | 45  | 0   | 50  | 29  | 0   | 0   | 45  | 0   | 0   | 34   | 0  | 0   | 212 | 95  | 0  | 0   | 0 | 46  | 556  |
| 610 Dewitt    | 0 | 6   | 6   | 0  | 3    | 3    | 1.13625  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 168  | 0  | 0   | 0   | 0   | 0  | 240 | 0 | 0   | 408  |
| 611 Dewitt    | 0 | 78  | 78  | 0  | 111  | 76   | 1.13625  | 0  | 73  | 18  | 18  | 37  | 92  | 37  | 18  | 73  | 18  | 37   | 0  | 0   | 37  | 18  | 0  | 37  | 0 | 18  | 531  |
| 612 Camillus  | 0 | 100 | 94  | 6  | 184  | 153  | 0.196501 | 7  | 0   | 0   | 0   | 0   | 0   | 9   | 0   | 24  | 0   | 0    | 0  | 0   | 0   | 10  | 0  | 0   | 0 | 0   | 50   |
| 613 Camillus  | 0 | 71  | 71  | 0  | 156  | 121  | 0.196501 | 6  | 0   | 0   | 0   | 0   | 0   | 0   | 160 | 0   | 0   | 0    | 0  | 0   | 0   | 13  | 0  | 0   | 0 | 0   | 179  |
| 614 Camillus  | 0 | 264 | 264 | 0  | 382  | 336  | 0.196501 | 8  | 22  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 0  | 0   | 0   | 18  | 0  | 0   | 0 | 0   | 48   |
| 615 Camillus  | 0 | 396 | 396 | 0  | 1037 | 793  | 0.196501 | 0  | 65  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 0  | 0   | 0   | 159 | 0  | 0   | 0 | 0   | 224  |
| 616 Dewitt    | 0 | 653 | 653 | 0  | 1581 | 1123 | 1.199572 | 0  | 0   | 0   | 0   | 0   | 0   | 13  | 0   | 0   | 0   | 0    | 0  | 0   | 0   | 0   | 0  | 0   | 0 | 0   | 13   |
| 617 Van Buren | 0 | 20  | 20  | 0  | 48   | 35   | 5.394978 | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 0  | 0   | 1   | 0   | 0  | 6   | 3 | 570 | 580  |
| 618 Van Buren | 0 | 69  | 69  | 0  | 178  | 142  | 5.394978 | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 0  | 0   | 17  | 0   | 0  | 0   | 0 | 0   | 17   |
| 619 Salina    | 0 | 59  | 59  | 0  | 118  | 77   | 7.2209   | 0  | 2   | 0   | 34  | 0   | 0   | 0   | 9   | 0   | 0   | 6    | 0  | 0   | 14  | 1   | 0  | 0   | 0 | 15  | 81   |
| 620 Salina    | 0 | 0   | 0   | 0  | 0    | 0    | 3.313916 | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 616  | 0  | 0   | 0   | 0   | 0  | 0   | 0 | 0   | 616  |
| 621 Dewitt    | 0 | 1   | 1   | 0  | 4    | 2    | 4.545483 | 0  | 51  | 14  | 277 | 0   | 28  | 35  | 0   | 5   | 0   | 332  | 0  | 0   | 31  | 23  | 15 | 39  | 0 | 268 | 1118 |
| 622 Dewitt    | 0 | 0   | 0   | 0  | 0    | 0    | 4.545483 | 0  | 13  | 9   | 32  | 118 | 0   | 38  | 0   | 1   | 184 | 226  | 0  | 53  | 3   | 46  | 6  | 0   | 0 | 211 | 940  |
| 623 Manlius   | 0 | 489 | 489 | 0  | 1292 | 928  | 0.103964 | 15 | 25  | 0   | 0   | 0   | 259 | 47  | 0   | 0   | 0   | 0    | 0  | 0   | 54  | 14  | 0  | 10  | 0 | 0   | 424  |
| 624 Manlius   | 0 | 67  | 67  | 0  | 145  | 109  | 0.103964 | 0  | 0   | 0   | 18  | 0   | 0   | 0   | 16  | 0   | 0   | 0    | 0  | 0   | 0   | 0   | 10 | 0   | 0 | 0   | 44   |
| 625 Manlius   | 0 | 72  | 72  | 0  | 169  | 124  | 0.103964 | 2  | 36  | 29  | 0   | 0   | 309 | 0   | 0   | 0   | 0   | 0    | 0  | 0   | 17  | 31  | 0  | 0   | 0 | 0   | 424  |
| 626 Manlius   | 0 | 287 | 287 | 0  | 752  | 585  | 0.017698 | 0  | 0   | 0   | 3   | 0   | 0   | 0   | 17  | 0   | 0   | 0    | 0  | 0   | 0   | 0   | 0  | 0   | 0 | 0   | 20   |
| 627 Salina    | 0 | 793 | 793 | 0  | 1500 | 996  | 2.94917  | 0  | 14  | 0   | 0   | 41  | 0   | 79  | 98  | 118 | 0   | 9    | 0  | 0   | 8   | 30  | 0  | 0   | 0 | 0   | 397  |
| 628 Salina    | 0 | 396 | 396 | 0  | 910  | 566  | 2.914754 | 0  | 3   | 0   | 0   | 362 | 116 | 16  | 0   | 0   | 0   | 0    | 0  | 0   | 9   | 0   | 0  | 0   | 0 | 0   | 506  |
| 1103 Salina   | 0 | 0   | 0   | 0  | 0    | 0    | 1.048512 | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 4    | 0  | 0   | 0   | 0   | 0  | 18  | 0 | 0   | 22   |
| 1102 Salina   | 0 | 0   | 0   | 0  | 0    | 0    | 1.048512 | 0  | 68  | 7   | 77  | 0   | 46  | 8   | 0   | 31  | 0   | 0    | 0  | 0   | 0   | 72  | 0  | 0   | 0 | 0   | 309  |
| 1104 Salina   | 0 | 290 | 290 | 0  | 690  | 419  | 1.048512 | 0  | 0   | 0   | 0   | 79  | 0   | 0   | 0   | 0   | 82  | 0    | 0  | 0   | 0   | 0   | 0  | 0   | 0 | 0   | 161  |
| 630 Salina    | 0 | 0   | 0   | 0  | 0    | 0    | 1.048512 | 0  | 17  | 0   | 0   | 35  | 0   | 31  | 0   | 68  | 71  | 0    | 0  | 0   | 0   | 0   | 0  | 0   | 0 | 0   | 222  |
| 631 Dewitt    | 0 | 13  | 13  | 0  | 23   | 16   | 1.20108  | 0  | 61  | 160 | 48  | 35  | 0   | 550 | 0   | 103 | 11  | 1473 | 33 | 0   | 7   | 618 | 23 | 33  | 0 | 66  | 3221 |
| 632 Dewitt    | 0 | 40  | 40  | 0  | 93   | 66   | 1.20108  | 6  | 174 | 33  | 365 | 80  | 130 | 212 | 0   | 134 | 0   | 608  | 0  | 0   | 24  | 24  | 30 | 49  | 0 | 110 | 1979 |
| 633 Salina    | 0 | 17  | 17  | 0  | 37   | 23   | 1.180026 | 0  | 32  | 0   | 160 | 0   | 0   | 0   | 0   | 0   | 28  | 0    | 0  | 0   | 24  | 18  | 0  | 214 | 0 | 22  | 498  |
| 634 Salina    | 0 | 0   | 0   | 0  | 0    | 0    | 1.180026 | 0  | 124 | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 94   | 0  | 0   | 92  | 0   | 0  | 0   | 0 | 139 | 449  |
| 635 Salina    | 0 | 72  | 72  | 0  | 174  | 105  | 1.180026 | 0  | 24  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 0  | 0   | 1   | 17  | 0  | 0   | 0 | 27  | 69   |
| 636 Van Buren | 0 | 63  | 63  | 0  | 172  | 130  | 0        | 0  | 0   | 0   | 12  | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 0  | 0   | 1   | 10  | 0  | 0   | 0 | 11  | 34   |
| 637 Salina    | 0 | 473 | 473 | 0  | 1098 | 679  | 1.217568 | 0  | 0   | 0   | 5   | 0   | 0   | 7   | 0   | 0   | 0   | 0    | 0  | 0   | 0   | 0   | 0  | 3   | 0 | 0   | 15   |
| 638 Dewitt    | 0 | 9   | 9   | 0  | 27   | 14   | 4.5457   | 0  | 3   | 0   | 28  | 136 | 0   | 698 | 0   | 0   | 81  | 0    | 0  | 0   | 1   | 30  | 0  | 0   | 0 | 0   | 977  |
| 639 Geddes    | 0 | 403 | 403 | 0  | 995  | 749  | 1.373084 | 0  | 26  | 0   | 27  | 27  | 0   | 10  | 0   | 4   | 19  | 0    | 0  | 0   | 7   | 33  | 0  | 0   | 0 | 31  | 184  |
| 640 Salina    | 0 | 249 | 249 | 0  | 519  | 332  | 0.554503 | 1  | 75  | 140 | 19  | 16  | 0   | 22  | 0   | 52  | 42  | 0    | 0  | 0   | 123 | 55  | 18 | 0   | 0 | 14  | 577  |
| 641 Sullivan  | 0 | 172 | 172 | 0  | 318  | 275  | 4.2      | 0  | 27  | 7   | 11  | 16  | 32  | 23  | 13  | 32  | 3   | 29   | 0  | 1   | 33  | 17  | 7  | 14  | 1 | 16  | 282  |
| 642 Geddes    | 0 | 444 | 443 | 1  | 1045 | 813  | 1.716859 | 0  | 9   | 0   | 20  | 41  | 147 | 32  | 0   | 6   | 0   | 0    | 0  | 0   | 29  | 19  | 0  | 0   | 0 | 68  | 371  |
| 643 Sullivan  | 0 | 105 | 105 | 0  | 220  | 176  | 4.2      | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 0  | 0   | 0   | 0   | 0  | 0   | 0 | 0   | 0    |
| 644 Dewitt    | 0 | 15  | 0   | 15 | 15   | 15   | 4.545378 | 3  | 287 | 0   | 101 | 0   | 0   | 29  | 0   | 5   | 0   | 132  | 0  | 0   | 88  | 49  | 0  | 223 | 0 | 131 | 1048 |
| 645 Salina    | 0 | 78  | 78  | 0  | 194  | 112  | 1.842984 | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 0  | 0   | 0   | 0   | 0  | 0   | 0 | 0   | 0    |
| 646 Salina    | 0 | 531 | 531 | 0  | 1250 | 738  | 1.842984 | 0  | 4   | 0   | 16  | 1   | 0   | 0   | 0   | 0   | 0   | 51   | 0  | 0   | 9   | 13  | 15 | 5   | 0 | 17  | 131  |
| 647 Salina    | 0 | 18  | 18  | 0  | 52   | 26   | 1.842984 | 0  | 5   | 0   | 0   | 5   | 0   | 0   | 0   | 0   | 0   | 0    | 0  | 0   | 14  | 14  | 9  | 9   | 0 | 0   | 56   |
| 648 Salina    | 0 | 236 | 236 | 0  | 526  | 325  | 0.138595 | 0  | 7   | 0   | 0   | 33  | 0   | 0   | 0   | 0   | 0   | 0    | 0  | 0   | 11  | 0   | 0  | 0   | 0 | 0   | 51   |
| 649 Salina    | 0 | 4   | 4   | 0  | 10   | 7    | 0.138595 | 25 | 317 | 27  | 167 | 215 | 162 | 108 | 0   | 51  | 23  | 155  | 0  | 0   | 40  | 37  | 0  | 16  | 0 | 32  | 1375 |
| 650 Dewitt    | 0 | 246 | 246 | 0  | 521  | 350  | 6.374065 | 4  | 11  | 0   | 0   | 10  | 0   | 62  | 0   | 0   | 0   | 21   | 0  | 0   | 0   | 27  | 0  | 0   | 0 | 150 | 285  |
| 651 Dewitt    | 0 | 29  | 29  | 0  | 54   | 42   | 4.554793 | 12 | 291 | 0   | 369 | 33  | 0   | 22  | 24  | 15  | 16  | 1435 | 0  | 257 | 89  | 49  | 22 | 43  | 0 | 450 | 3127 |
| 652 Salina    | 0 | 36  | 36  | 0  | 86   | 56   | 0.256727 | 0  | 1   | 0   | 0   | 1   | 2   | 1   | 1   | 2   | 0   | 1    | 0  | 0   | 1   | 1   | 0  | 0   | 0 | 1   | 12   |
| 653 Van Buren | 0 | 23  | 23  | 0  | 58   | 47   | 0        | 0  | 0   | 42  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 0  | 0   | 55  | 51  | 0  | 0   | 0 | 0   | 148  |
| 654 Salina    | 0 | 493 | 493 | 0  | 1019 | 738  | 3.240582 | 27 | 42  | 0   | 0   | 136 | 0   | 45  | 37  | 39  | 25  | 12   | 0  | 0   | 26  | 14  | 0  | 25  | 0 | 0   | 428  |
| 655 Salina    | 0 | 600 | 600 | 0  | 1465 | 856  | 2.197023 | 0  | 14  | 0   | 16  | 4   | 55  | 4   | 0   | 0   | 0   | 0    | 0  | 0   | 4   | 42  | 0  | 26  | 0 | 4   | 169  |
| 656 Elbridge  | 0 | 272 | 272 | 0  | 638  | 488  | 2.746357 | 0  | 0   | 0   | 15  | 13  | 0   | 0   | 0   | 0   | 0   | 0    | 0  | 0   | 3   | 5   | 0  | 0   | 0 | 0   | 36   |
| 657 Salina    | 0 | 308 | 306 | 2  | 542  | 411  | 4.451798 | 0  | 49  | 0   | 134 | 49  | 0   | 29  | 0   | 16  | 0   | 235  | 0  | 0   | 34  | 76  | 19 | 13  | 0 | 37  | 691  |
| 658 Salina    | 0 | 416 | 416 | 0  | 941  | 691  | 5.53931  | 0  | 9   | 0   | 0   | 19  | 0   | 0   | 0   | 0   | 0   | 0    | 0  | 0   | 8   | 18  | 0  | 0   | 0 | 0   | 54   |
| 659 Sullivan  | 0 | 77  | 77  | 0  | 149  | 127  | 4.2      | 0  | 3   | 0   | 1   | 1   | 3   | 3   | 1   | 3   | 0   | 3    | 0  | 0   | 5   | 1   | 0  | 1   | 0 | 1   | 26   |
| 660 Sullivan  | 0 | 210 | 210 | 0  | 335  | 304  | 4.2      | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 0  | 0   | 0   | 0   | 0  | 0   | 0 | 0   | 0    |
| 661 Salina    | 0 | 2   | 0   | 2  | 3    | 3    | 4.57825  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 49  | 0   | 0   | 0    | 0  | 0   | 14  | 0   | 0  | 0   | 0 | 0   | 63   |
| 662 Salina    | 0 | 55  | 55  | 0  | 137  | 97   | 0.095445 | 3  | 252 | 0   | 8   | 0   | 18  | 998 | 22  | 135 | 0   | 305  | 0  | 0   | 40  | 16  | 0  | 0   | 0 | 0   | 1797 |
| 663 Liverpool | 0 | 67  | 67  | 0  | 99   | 83   | 6.248823 | 0  | 140 | 0   | 0   | 0   | 130 | 103 | 0   | 31  | 0   | 101  | 0  | 0   | 89  | 70  | 0  | 0   | 9 | 7   | 680  |
| 664 Liverpool | 0 | 115 | 115 | 0  | 243  | 184  | 6.248823 | 0  | 60  | 13  | 89  | 65  | 0   | 14  | 0   | 24  | 0   | 0    | 0  | 0   | 16  | 41  | 18 | 38  | 0 | 15  | 393  |
| 665 Liverpool | 0 | 153 | 153 | 0  | 295  | 240  | 6.248823 | 0  | 26  | 0   | 0   | 27  | 3   | 29  | 0   | 7   | 14  | 0    | 0  | 0   | 7   | 36  | 27 | 0   | 0 | 0   | 176  |
| 666 Geddes    | 0 | 248 | 248 | 0  | 626  | 471  | 0.019836 | 0  | 11  | 0   | 28  | 0   | 0   | 0   | 0   | 12  | 15  | 45   | 0  | 0   | 73  | 33  | 4  | 55  | 0 | 39  | 315  |
| 667 Salina    | 0 | 524 | 521 | 3  | 1261 | 855  | 2.940461 | 0  | 136 | 9   | 37  | 287 | 0   | 13  | 0   | 4   | 87  | 0    | 0  | 0   | 12  | 13  | 16 | 0   | 0 | 16  | 630  |



|               |   |      |      |    |      |      |          |    |     |    |     |     |     |     |     |     |      |      |    |     |     |     |      |     |     |      |      |
|---------------|---|------|------|----|------|------|----------|----|-----|----|-----|-----|-----|-----|-----|-----|------|------|----|-----|-----|-----|------|-----|-----|------|------|
| 668 Dewitt    | 0 | 17   | 17   | 0  | 36   | 24   | 6.135851 | 0  | 121 | 0  | 80  | 0   | 0   | 0   | 0   | 0   | 2016 | 0    | 0  | 0   | 33  | 0   | 47   | 0   | 0   | 2297 |      |
| 669 Van Buren | 0 | 153  | 153  | 0  | 384  | 306  | 5.394997 | 0  | 0   | 0  | 14  | 4   | 0   | 4   | 0   | 0   | 0    | 0    | 0  | 1   | 0   | 0   | 10   | 3   | 0   | 36   |      |
| 670 Van Buren | 0 | 61   | 61   | 0  | 170  | 131  | 5.394997 | 0  | 0   | 0  | 0   | 2   | 0   | 3   | 0   | 0   | 0    | 0    | 0  | 1   | 0   | 0   | 0    | 2   | 0   | 8    |      |
| 671 Sullivan  | 0 | 204  | 204  | 0  | 474  | 372  | 4.2      | 0  | 1   | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 6    | 0    | 0  | 0   | 0   | 0   | 0    | 0   | 0   | 7    |      |
| 672 Dewitt    | 0 | 0    | 0    | 0  | 0    | 0    | 3.889606 | 3  | 310 | 0  | 121 | 0   | 0   | 2   | 8   | 15  | 0    | 14   | 0  | 0   | 38  | 10  | 46   | 212 | 11  | 235  | 1025 |
| 673 Dewitt    | 0 | 37   | 14   | 23 | 66   | 53   | 3.889606 | 1  | 238 | 6  | 232 | 21  | 107 | 6   | 34  | 8   | 0    | 377  | 0  | 0   | 208 | 95  | 32   | 934 | 6   | 586  | 2891 |
| 674 Manlius   | 0 | 181  | 181  | 0  | 450  | 343  | 0        | 0  | 2   | 0  | 8   | 0   | 4   | 0   | 0   | 0   | 0    | 0    | 0  | 0   | 21  | 4   | 0    | 0   | 0   | 39   |      |
| 675 Manlius   | 0 | 254  | 247  | 7  | 551  | 447  | 0        | 0  | 12  | 0  | 45  | 0   | 25  | 0   | 0   | 184 | 0    | 0    | 0  | 0   | 18  | 18  | 0    | 0   | 0   | 302  |      |
| 676 Salina    | 0 | 333  | 327  | 6  | 811  | 470  | 2.57631  | 0  | 10  | 0  | 0   | 93  | 269 | 0   | 31  | 27  | 0    | 0    | 0  | 144 | 31  | 0   | 0    | 0   | 6   | 611  |      |
| 677 Salina    | 0 | 423  | 423  | 0  | 884  | 668  | 2.318817 | 0  | 0   | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 18   | 2    | 0  | 0   | 0   | 0   | 0    | 0   | 0   | 20   |      |
| 678 Van Buren | 0 | 90   | 90   | 0  | 212  | 172  | 0        | 0  | 37  | 0  | 3   | 38  | 0   | 0   | 11  | 0   | 0    | 0    | 0  | 1   | 19  | 0   | 19   | 0   | 5   | 133  |      |
| 679 Salina    | 0 | 1083 | 1083 | 0  | 2390 | 1710 | 2.43391  | 0  | 0   | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 0    | 0  | 16  | 0   | 20  | 53   | 0   | 0   | 89   |      |
| 680 Salina    | 0 | 179  | 179  | 0  | 436  | 309  | 4.686657 | 1  | 23  | 8  | 38  | 31  | 100 | 11  | 8   | 12  | 3    | 2    | 0  | 0   | 133 | 37  | 4    | 145 | 7   | 16   | 579  |
| 681 Salina    | 0 | 483  | 483  | 0  | 1209 | 862  | 4.686657 | 0  | 6   | 0  | 2   | 0   | 4   | 0   | 0   | 1   | 0    | 11   | 0  | 0   | 23  | 13  | 1    | 3   | 0   | 1    | 65   |
| 682 Van Buren | 0 | 53   | 53   | 0  | 75   | 49   | 0        | 0  | 0   | 0  | 60  | 0   | 0   | 0   | 0   | 0   | 0    | 0    | 0  | 36  | 121 | 0   | 12   | 0   | 194 | 423  |      |
| 683 Salina    | 0 | 279  | 272  | 7  | 671  | 460  | 0.067075 | 0  | 9   | 0  | 0   | 0   | 0   | 0   | 13  | 24  | 0    | 0    | 0  | 0   | 125 | 0   | 0    | 128 | 445 | 744  |      |
| 684 Liverpool | 0 | 103  | 103  | 0  | 232  | 186  | 4.34017  | 0  | 0   | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 0    | 0  | 0   | 0   | 0   | 0    | 0   | 0   | 0    |      |
| 685 Liverpool | 0 | 321  | 314  | 7  | 709  | 539  | 4.34017  | 0  | 3   | 0  | 0   | 0   | 79  | 0   | 19  | 6   | 0    | 0    | 0  | 0   | 66  | 6   | 0    | 0   | 0   | 179  |      |
| 686 Dewitt    | 0 | 69   | 69   | 0  | 140  | 107  | 6.36034  | 0  | 88  | 0  | 44  | 16  | 0   | 47  | 0   | 7   | 0    | 12   | 0  | 0   | 35  | 61  | 19   | 861 | 0   | 95   | 1285 |
| 687 Salina    | 0 | 285  | 285  | 0  | 535  | 410  | 2.877529 | 0  | 0   | 0  | 7   | 0   | 0   | 0   | 0   | 0   | 0    | 0    | 0  | 0   | 6   | 0   | 0    | 0   | 0   | 13   |      |
| 688 Van Buren | 0 | 184  | 184  | 0  | 517  | 392  | 0        | 1  | 0   | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 0    | 0  | 0   | 28  | 0   | 0    | 0   | 0   | 29   |      |
| 689 Van Buren | 0 | 4    | 0    | 4  | 0    | 0    | 0        | 0  | 56  | 0  | 5   | 30  | 0   | 0   | 0   | 0   | 10   | 56   | 0  | 0   | 112 | 0   | 0    | 20  | 0   | 26   | 315  |
| 690 Dewitt    | 0 | 13   | 13   | 0  | 25   | 18   | 6.374453 | 12 | 388 | 1  | 82  | 0   | 1   | 39  | 1   | 328 | 0    | 2    | 0  | 0   | 36  | 41  | 76   | 2   | 2   | 156  | 1167 |
| 691 Dewitt    | 0 | 2    | 2    | 0  | 5    | 3    | 6.374453 | 0  | 72  | 11 | 24  | 0   | 0   | 7   | 5   | 11  | 0    | 269  | 0  | 0   | 112 | 22  | 2    | 104 | 2   | 151  | 792  |
| 692 Liverpool | 0 | 293  | 274  | 19 | 605  | 488  | 3.143479 | 0  | 5   | 0  | 0   | 0   | 0   | 0   | 145 | 0   | 0    | 0    | 0  | 0   | 7   | 0   | 0    | 0   | 0   | 157  |      |
| 693 Salina    | 0 | 472  | 472  | 0  | 789  | 665  | 1.953036 | 0  | 64  | 0  | 173 | 67  | 0   | 8   | 11  | 0   | 22   | 1767 | 0  | 0   | 113 | 109 | 8    | 110 | 0   | 14   | 2466 |
| 694 Geddes    | 0 | 12   | 12   | 0  | 25   | 19   | 0.888701 | 0  | 53  | 0  | 67  | 7   | 0   | 19  | 0   | 0   | 0    | 132  | 0  | 2   | 30  | 3   | 0    | 6   | 0   | 73   | 392  |
| 695 Salina    | 0 | 5    | 5    | 0  | 9    | 6    | 2.160418 | 0  | 181 | 0  | 38  | 0   | 0   | 181 | 0   | 0   | 0    | 187  | 0  | 0   | 51  | 49  | 0    | 0   | 0   | 173  | 860  |
| 696 Van Buren | 0 | 2    | 2    | 0  | 2    | 2    | 0        | 0  | 0   | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 0    | 0  | 0   | 0   | 0   | 225  | 0   | 0   | 225  |      |
| 697 Salina    | 0 | 202  | 202  | 0  | 469  | 374  | 0.201191 | 0  | 5   | 0  | 0   | 0   | 75  | 0   | 0   | 0   | 0    | 0    | 0  | 0   | 0   | 0   | 0    | 0   | 0   | 80   |      |
| 698 Salina    | 0 | 289  | 289  | 0  | 731  | 563  | 0.201191 | 0  | 0   | 0  | 3   | 4   | 0   | 0   | 0   | 0   | 1    | 0    | 0  | 0   | 0   | 3   | 1    | 0   | 0   | 12   |      |
| 699 Sullivan  | 0 | 85   | 85   | 0  | 157  | 134  | 4.2      | 0  | 0   | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 0    | 0  | 0   | 0   | 0   | 0    | 0   | 0   | 0    |      |
| 700 Van Buren | 0 | 184  | 184  | 0  | 414  | 309  | 0.877729 | 0  | 0   | 0  | 40  | 19  | 0   | 0   | 0   | 0   | 0    | 0    | 0  | 1   | 25  | 0   | 0    | 0   | 0   | 85   |      |
| 701 Salina    | 0 | 591  | 591  | 0  | 1221 | 907  | 1.949316 | 0  | 12  | 0  | 30  | 0   | 289 | 0   | 0   | 9   | 0    | 0    | 0  | 0   | 162 | 55  | 0    | 0   | 0   | 217  | 774  |
| 1107 Clay     | 0 | 10   | 10   | 0  | 20   | 14   | 2.366109 | 0  | 0   | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 0    | 0  | 0   | 0   | 0   | 2142 | 0   | 0   | 2142 |      |
| 1108 Clay     | 0 | 50   | 50   | 0  | 108  | 71   | 2.366109 | 0  | 0   | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 0    | 0  | 0   | 0   | 0   | 0    | 0   | 0   | 0    |      |
| 703 Van Buren | 0 | 110  | 110  | 0  | 291  | 219  | 5.394985 | 9  | 0   | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 0    | 0  | 0   | 0   | 0   | 0    | 0   | 0   | 9    |      |
| 704 Geddes    | 0 | 112  | 106  | 6  | 281  | 213  | 0.05829  | 0  | 3   | 0  | 63  | 0   | 0   | 19  | 0   | 0   | 0    | 38   | 0  | 23  | 0   | 0   | 0    | 0   | 43  | 189  |      |
| 705 Salina    | 0 | 554  | 549  | 5  | 1153 | 777  | 0.998095 | 0  | 32  | 9  | 0   | 104 | 32  | 11  | 48  | 0   | 0    | 14   | 0  | 0   | 261 | 37  | 0    | 0   | 33  | 2    | 583  |
| 706 Salina    | 0 | 4    | 4    | 0  | 6    | 4    | 0.998095 | 0  | 339 | 12 | 0   | 60  | 45  | 30  | 68  | 0   | 30   | 0    | 0  | 17  | 98  | 0   | 0    | 47  | 3   | 749  |      |
| 707 Geddes    | 0 | 2    | 0    | 2  | 0    | 0    | 0.005268 | 0  | 0   | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 57   | 124  | 60 | 13  | 0   | 39  | 0    | 59  | 16  | 251  | 619  |
| 708 Van Buren | 0 | 517  | 517  | 0  | 1112 | 802  | 0.092026 | 0  | 26  | 0  | 0   | 2   |     |     |     |     |      |      |    |     |     |     |      |     |     |      |      |



|                |   |      |      |   |      |      |          |    |     |    |     |     |     |     |     |     |     |    |    |     |     |     |    |     |     |      |      |
|----------------|---|------|------|---|------|------|----------|----|-----|----|-----|-----|-----|-----|-----|-----|-----|----|----|-----|-----|-----|----|-----|-----|------|------|
| 727 Clay       | 0 | 223  | 223  | 0 | 532  | 380  | 2.56148  | 0  | 6   | 0  | 22  | 56  | 0   | 48  | 0   | 19  | 0   | 21 | 0  | 0   | 12  | 73  | 0  | 0   | 0   | 0    | 257  |
| 728 Cicero     | 0 | 0    | 0    | 0 | 0    | 0    | 0        | 0  | 0   | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0  | 0   | 12  | 7   | 0  | 86  | 0   | 3    | 108  |
| 729 Salina     | 0 | 455  | 449  | 6 | 885  | 746  | 0.072285 | 1  | 0   | 0  | 23  | 0   | 171 | 0   | 0   | 0   | 0   | 0  | 0  | 0   | 0   | 0   | 93 | 0   | 0   | 0    | 288  |
| 730 Salina     | 0 | 73   | 73   | 0 | 164  | 135  | 0.072285 | 1  | 0   | 0  | 1   | 0   | 8   | 0   | 0   | 0   | 0   | 0  | 0  | 0   | 0   | 0   | 4  | 0   | 0   | 0    | 14   |
| 731 Clay       | 0 | 285  | 285  | 0 | 711  | 563  | 4.303524 | 0  | 0   | 0  | 0   | 21  | 0   | 353 | 0   | 15  | 0   | 0  | 0  | 0   | 14  | 16  | 0  | 0   | 0   | 37   | 456  |
| 732 Clay       | 0 | 9    | 9    | 0 | 19   | 9    | 6.704257 | 0  | 81  | 0  | 0   | 7   | 87  | 0   | 0   | 0   | 850 | 0  | 32 | 102 | 20  | 17  | 33 | 0   | 13  | 1242 |      |
| 733 Clay       | 0 | 0    | 0    | 0 | 0    | 0    | 6.704257 | 0  | 45  | 0  | 0   | 8   | 96  | 11  | 0   | 0   | 365 | 0  | 37 | 168 | 102 | 17  | 62 | 0   | 102 | 1013 |      |
| 734 Cicero     | 0 | 1    | 1    | 0 | 1    | 1    | 0.282692 | 0  | 2   | 0  | 0   | 1   | 3   | 2   | 1   | 3   | 0   | 2  | 0  | 0   | 5   | 2   | 1  | 1   | 1   | 1    | 25   |
| 735 Cicero     | 0 | 176  | 176  | 0 | 368  | 260  | 0.282692 | 0  | 32  | 0  | 31  | 46  | 0   | 0   | 0   | 0   | 298 | 0  | 5  | 35  | 182 | 0   | 0  | 0   | 20  | 649  |      |
| 736 North Syra | 0 | 564  | 557  | 7 | 1254 | 866  | 4.59757  | 0  | 81  | 40 | 83  | 29  | 220 | 81  | 22  | 11  | 0   | 45 | 0  | 0   | 142 | 75  | 10 | 12  | 0   | 93   | 944  |
| 737 Cicero     | 0 | 17   | 17   | 0 | 12   | 9    | 1.005513 | 0  | 0   | 0  | 23  | 40  | 0   | 0   | 0   | 0   | 0   | 0  | 0  | 17  | 128 | 0   | 0  | 0   | 64  | 272  |      |
| 738 Lysander   | 0 | 195  | 195  | 0 | 466  | 382  | 1.322751 | 0  | 0   | 0  | 6   | 9   | 0   | 0   | 0   | 0   | 1   | 0  | 0  | 0   | 1   | 0   | 10 | 0   | 0   | 27   |      |
| 739 Lysander   | 0 | 103  | 103  | 0 | 242  | 203  | 1.322751 | 7  | 12  | 0  | 0   | 64  | 0   | 0   | 0   | 0   | 7   | 1  | 0  | 0   | 0   | 33  | 1  | 0   | 0   | 125  |      |
| 740 North Syra | 0 | 512  | 512  | 0 | 831  | 638  | 1.565878 | 1  | 124 | 0  | 10  | 87  | 20  | 88  | 0   | 9   | 0   | 23 | 0  | 0   | 122 | 85  | 12 | 0   | 0   | 113  | 694  |
| 741 Van Buren  | 0 | 201  | 201  | 0 | 374  | 306  | 0        | 0  | 0   | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0  | 18  | 0   | 0   | 0  | 0   | 0   | 18   |      |
| 742 Salina     | 0 | 620  | 620  | 0 | 1003 | 948  | 0        | 0  | 0   | 0  | 0   | 0   | 0   | 39  | 0   | 0   | 0   | 0  | 0  | 0   | 6   | 0   | 0  | 0   | 0   | 45   |      |
| 743 Cicero     | 0 | 426  | 426  | 0 | 879  | 644  | 0.916457 | 0  | 2   | 0  | 30  | 9   | 0   | 6   | 0   | 0   | 0   | 0  | 0  | 21  | 2   | 0   | 0  | 0   | 11  | 81   |      |
| 744 Cicero     | 0 | 28   | 28   | 0 | 49   | 40   | 0.916457 | 0  | 352 | 0  | 0   | 0   | 0   | 12  | 0   | 0   | 0   | 0  | 0  | 35  | 15  | 0   | 56 | 0   | 0   | 470  |      |
| 745 Clay       | 0 | 226  | 226  | 0 | 541  | 441  | 0.000333 | 0  | 33  | 0  | 25  | 0   | 0   | 96  | 0   | 0   | 0   | 11 | 0  | 0   | 27  | 13  | 23 | 0   | 0   | 228  |      |
| 746 Clay       | 0 | 449  | 449  | 0 | 1054 | 739  | 0.023661 | 0  | 0   | 0  | 4   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0  | 0   | 0   | 0   | 0  | 0   | 0   | 4    |      |
| 747 Clay       | 0 | 738  | 738  | 0 | 1221 | 1039 | 1.547357 | 0  | 0   | 0  | 0   | 0   | 0   | 11  | 0   | 0   | 0   | 3  | 0  | 0   | 3   | 0   | 0  | 0   | 22  | 39   |      |
| 748 Clay       | 0 | 1    | 1    | 0 | 2    | 2    | 7.237124 | 0  | 108 | 0  | 0   | 0   | 119 | 51  | 213 | 17  | 0   | 12 | 0  | 0   | 271 | 244 | 0  | 42  | 0   | 714  | 1791 |
| 749 Clay       | 0 | 57   | 57   | 0 | 107  | 77   | 7.237124 | 0  | 72  | 0  | 26  | 23  | 0   | 285 | 0   | 56  | 0   | 17 | 39 | 0   | 54  | 9   | 4  | 27  | 0   | 111  | 723  |
| 750 Clay       | 0 | 1468 | 1460 | 8 | 3199 | 2108 | 2.556777 | 0  | 103 | 0  | 7   | 161 | 0   | 60  | 0   | 32  | 5   | 0  | 0  | 78  | 212 | 46  | 0  | 0   | 33  | 737  |      |
| 751 Cicero     | 0 | 0    | 0    | 0 | 0    | 0    | 0.001322 | 1  | 3   | 0  | 0   | 1   | 3   | 2   | 1   | 3   | 1   | 2  | 0  | 0   | 5   | 1   | 1  | 1   | 0   | 1    | 26   |
| 752 Cicero     | 0 | 329  | 324  | 5 | 696  | 490  | 0.001322 | 0  | 9   | 0  | 7   | 0   | 5   | 0   | 0   | 0   | 0   | 0  | 0  | 23  | 0   | 0   | 0  | 0   | 0   | 44   |      |
| 753 Clay       | 0 | 288  | 288  | 0 | 675  | 531  | 2.320176 | 0  | 0   | 0  | 0   | 15  | 87  | 5   | 0   | 46  | 0   | 0  | 0  | 99  | 0   | 18  | 6  | 0   | 0   | 276  |      |
| 754 North Syra | 0 | 591  | 591  | 0 | 1444 | 963  | 0.43022  | 0  | 3   | 0  | 5   | 0   | 0   | 3   | 0   | 3   | 5   | 0  | 0  | 29  | 21  | 0   | 4  | 0   | 4   | 77   |      |
| 755 Clay       | 0 | 392  | 392  | 0 | 996  | 795  | 0.083307 | 0  | 23  | 0  | 4   | 50  | 0   | 6   | 0   | 0   | 0   | 0  | 0  | 8   | 9   | 0   | 0  | 0   | 0   | 100  |      |
| 756 Clay       | 0 | 8    | 8    | 0 | 13   | 13   | 0.57235  | 0  | 0   | 0  | 0   | 77  | 0   | 0   | 0   | 0   | 0   | 0  | 0  | 265 | 0   | 0   | 0  | 0   | 0   | 342  |      |
| 757 Van Buren  | 0 | 691  | 691  | 0 | 1363 | 1063 | 0        | 0  | 12  | 0  | 0   | 0   | 72  | 18  | 0   | 0   | 0   | 0  | 6  | 0   | 0   | 0   | 0  | 0   | 0   | 108  |      |
| 758 Cicero     | 0 | 68   | 68   | 0 | 144  | 94   | 1.015246 | 0  | 15  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0  | 0   | 7   | 0   | 0  | 0   | 0   | 22   |      |
| 759 North Syra | 0 | 149  | 149  | 0 | 310  | 229  | 1.622437 | 0  | 0   | 0  | 2   | 0   | 3   | 3   | 3   | 0   | 0   | 0  | 0  | 0   | 0   | 10  | 3  | 0   | 0   | 24   |      |
| 760 North Syra | 0 | 196  | 196  | 0 | 449  | 320  | 1.622437 | 0  | 0   | 0  | 2   | 0   | 2   | 2   | 3   | 0   | 0   | 0  | 0  | 2   | 0   | 6   | 3  | 0   | 0   | 20   |      |
| 761 Clay       | 0 | 541  | 541  | 0 | 1452 | 1046 | 0.943724 | 0  | 20  | 0  | 18  | 47  | 0   | 121 | 0   | 13  | 0   | 22 | 0  | 0   | 72  | 14  | 0  | 74  | 0   | 6    | 407  |
| 762 Clay       | 0 | 372  | 372  | 0 | 973  | 688  | 0.002341 | 0  | 58  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0  | 8   | 28  | 0   | 0  | 0   | 8   | 102  |      |
| 763 Salina     | 0 | 207  | 207  | 0 | 503  | 396  | 0        | 0  | 0   | 0  | 0   | 0   | 82  | 0   | 0   | 0   | 0   | 0  | 0  | 0   | 0   | 0   | 0  | 0   | 0   | 82   |      |
| 764 Lysander   | 0 | 688  | 688  | 0 | 690  | 526  | 0        | 0  | 0   | 0  | 15  | 24  | 0   | 0   | 65  | 0   | 0   | 34 | 0  | 0   | 0   | 0   | 0  | 0   | 0   | 138  |      |
| 765 North Syra | 0 | 9    | 9    | 0 | 23   | 16   | 1.350143 | 0  | 0   | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0  | 0   | 0   | 0   | 0  | 0   | 0   | 0    |      |
| 766 North Syra | 0 | 49   | 49   | 0 | 92   | 76   | 1.350143 | 0  | 0   | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0  | 0   | 0   | 0   | 0  | 0   | 0   | 0    |      |
| 767 Van Buren  | 0 | 82   | 82   | 0 | 203  | 145  | 0.921056 | 0  | 8   | 0  | 9   | 0   | 0   | 0   | 0   | 0   | 116 | 0  | 0  | 6   | 14  | 0   | 0  | 0   | 0   | 153  |      |
| 768 Clay       | 0 | 248  | 248  | 0 | 622  | 461  | 0.097446 | 0  | 3   | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 8   | 0  | 0  | 0   | 1   | 1   | 0  | 0   | 0   | 13   |      |
| 769 Cicero     | 0 | 124  | 124  | 0 | 300  | 220  | 2.803741 | 0  | 0   | 0  | 0   | 10  | 0   | 0   | 0   | 0   | 0   | 0  | 1  | 2   | 3   | 0   | 19 | 0   | 0   | 35   |      |
| 770 Cicero     | 0 | 137  | 137  | 0 | 85   | 57   | 2.803741 | 3  | 0   | 0  | 254 | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0  | 28  | 31  | 3   | 0  | 361 | 0   | 17   | 697  |
| 771 Van Buren  | 0 | 666  | 666  | 0 | 1353 | 1024 | 0        | 0  | 15  | 0  | 0   | 0   | 0   | 12  | 0   | 0   | 0   | 0  | 0  | 0   | 0   | 0   | 0  | 0   | 0   | 27   |      |
| 772 Van Buren  | 0 | 181  | 181  | 0 | 448  | 375  | 0.943396 | 21 | 0   | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0  | 0   | 0   | 0   | 0  | 0   | 0   | 21   |      |
| 773 Van Buren  | 0 | 115  | 115  | 0 | 277  | 232  | 0.943396 | 0  | 1   | 0  | 0   | 1   | 1   | 1   | 0   | 1   | 0   | 1  | 0  | 0   | 2   | 1   | 0  | 0   | 1   | 10   |      |
| 774 Clay       | 0 | 471  | 471  | 0 | 1138 | 826  | 0.307083 | 0  | 0   | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0  | 9   | 0   | 0   | 0  | 0   | 0   | 9    |      |
| 775 Van Buren  | 0 | 262  | 262  | 0 | 485  | 391  | 0.000632 | 0  | 0   | 0  | 0   | 25  | 152 | 0   | 0   | 0   | 0   | 0  | 0  | 0   | 29  | 0   | 0  | 0   | 11  | 217  |      |
| 776 Van Buren  | 0 | 49   | 49   | 0 | 124  | 101  | 0.718731 | 4  | 3   | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0  | 0   | 0   | 0   | 0  | 0   | 0   | 7    |      |
| 777 Van Buren  | 0 | 29   | 29   | 0 | 67   | 57   | 0.718731 | 4  | 0   | 0  | 7   | 0   | 0   | 0   | 48  | 0   | 0   | 0  | 0  | 0   | 0   | 0   | 0  | 0   | 0   | 59   |      |
| 778 North Syra | 0 | 506  | 506  | 0 | 1222 | 830  | 0.000732 | 0  | 0   | 0  | 0   | 20  | 0   | 72  | 0   | 11  | 0   | 0  | 0  | 20  | 8   | 0   | 0  | 0   | 0   | 131  |      |
| 779 North Syra | 0 | 137  | 137  | 0 | 345  | 224  | 0.000732 | 0  | 41  | 0  | 11  | 0   | 25  | 8   | 0   | 31  | 0   | 11 | 0  | 44  | 9   | 12  | 0  | 0   | 0   | 192  |      |
| 780 Cicero     | 0 | 149  | 149  | 0 | 349  | 275  | 0.040278 | 0  | 0   | 0  | 0   | 0   | 82  | 0   | 0   | 0   | 0   | 0  | 0  | 0   | 0   | 0   | 0  | 0   | 0   | 82   |      |
| 781 Clay       | 0 | 218  | 218  | 0 | 539  | 414  | 0        | 0  | 1   | 0  | 1   | 0   | 0   | 1   | 0   | 1   | 0   | 0  | 0  | 0   | 0   | 0   | 0  | 0   | 1   | 5    |      |
| 782 Clay       | 0 | 475  | 475  | 0 | 1106 | 866  | 0        | 0  | 0   | 0  | 7   | 0   | 86  | 0   | 0   | 0   | 0   | 0  | 0  | 4   | 0   | 0   | 0  | 5   | 6   | 108  |      |
| 783 North Syra | 0 | 26   | 26   | 0 | 56   | 40   | 10.33249 | 0  | 13  | 0  | 0   | 0   | 0   | 0   | 35  | 0   | 0   | 0  | 0  | 0   | 17  | 0   | 0  | 0   | 0   | 65   |      |
| 784 North Syra | 0 | 428  | 425  | 3 | 891  | 664  | 10.33249 | 7  | 240 | 0  | 52  | 165 | 20  | 78  | 30  | 125 | 0   | 15 | 0  | 0   | 112 | 25  | 8  | 0   | 32  | 909  |      |
| 785 Clay       | 0 | 556  | 556  | 0 | 1484 | 1082 | 1.238498 | 0  | 0   | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0  | 0   | 0   | 36  | 0  | 0   | 0   | 36   |      |
| 786 Lysander   | 0 | 680  | 680  | 0 | 756  | 510  | 0.014176 | 0  | 11  | 2  | 4   | 6   | 13  | 9   | 4   | 13  | 0   | 11 | 0  | 15  | 302 | 2   | 4  | 0   | 6   | 402  |      |
| 787 Lysander   | 0 | 589  | 589  | 0 | 1011 | 768  | 0.014176 | 8  | 19  | 0  | 35  | 0   | 0   | 19  | 0   | 0   | 0   | 47 | 0  | 0   | 0   | 0   | 0  | 0   | 0   | 128  |      |



|                |   |      |      |    |      |      |          |    |    |    |     |     |     |     |     |     |     |      |    |     |     |     |    |      |
|----------------|---|------|------|----|------|------|----------|----|----|----|-----|-----|-----|-----|-----|-----|-----|------|----|-----|-----|-----|----|------|
| 788 Clay       | 0 | 303  | 303  | 0  | 765  | 595  | 0.815182 | 0  | 6  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 15   | 0  | 0   | 0   | 0   | 0  | 21   |
| 789 Clay       | 0 | 88   | 88   | 0  | 251  | 192  | 0.815182 | 0  | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 0  | 0   | 4   | 192 | 0  | 196  |
| 790 Baldwinsvi | 0 | 122  | 122  | 0  | 218  | 134  | 6.91018  | 0  | 26 | 0  | 0   | 0   | 0   | 36  | 0   | 0   | 0   | 0    | 0  | 23  | 5   | 0   | 0  | 90   |
| 791 Clay       | 0 | 415  | 415  | 0  | 1017 | 766  | 0        | 0  | 0  | 12 | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 0  | 330 | 9   | 0   | 0  | 360  |
| 792 Cicero     | 0 | 231  | 231  | 0  | 657  | 445  | 0        | 0  | 0  | 58 | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 0  | 0   | 0   | 0   | 0  | 58   |
| 793 Clay       | 0 | 3    | 3    | 0  | 3    | 3    | 2.389424 | 0  | 10 | 0  | 0   | 0   | 0   | 13  | 220 | 0   | 0   | 0    | 0  | 16  | 0   | 16  | 0  | 284  |
| 794 Clay       | 0 | 393  | 393  | 0  | 1003 | 744  | 0.815861 | 0  | 24 | 0  | 0   | 0   | 0   | 53  | 0   | 0   | 0   | 23   | 0  | 0   | 19  | 36  | 0  | 163  |
| 795 Clay       | 0 | 766  | 761  | 5  | 2231 | 1663 | 0.002658 | 0  | 27 | 0  | 0   | 0   | 0   | 54  | 0   | 0   | 0   | 0    | 0  | 0   | 0   | 0   | 0  | 81   |
| 796 Van Buren  | 0 | 63   | 63   | 0  | 140  | 102  | 0.921083 | 0  | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 0  | 0   | 0   | 0   | 87 | 87   |
| 797 Van Buren  | 0 | 132  | 132  | 0  | 290  | 175  | 3.412934 | 0  | 7  | 0  | 0   | 89  | 7   | 51  | 0   | 0   | 15  | 0    | 0  | 0   | 83  | 7   | 0  | 259  |
| 798 Baldwinsvi | 0 | 816  | 816  | 0  | 766  | 602  | 3.412934 | 0  | 10 | 0  | 0   | 12  | 4   | 18  | 2   | 189 | 1   | 0    | 0  | 51  | 7   | 53  | 0  | 351  |
| 799 Clay       | 0 | 5    | 5    | 0  | 5    | 5    | 7.352911 | 0  | 63 | 0  | 124 | 7   | 49  | 0   | 0   | 0   | 114 | 0    | 38 | 23  | 0   | 3   | 0  | 443  |
| 800 Lysander   | 0 | 544  | 544  | 0  | 1745 | 1174 | 0        | 0  | 0  | 0  | 15  | 6   | 15  | 0   | 0   | 0   | 0   | 0    | 0  | 3   | 0   | 0   | 0  | 39   |
| 801 Cicero     | 0 | 477  | 468  | 9  | 1231 | 896  | 0.643965 | 0  | 33 | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 0  | 33  | 0   | 33  | 0  | 99   |
| 802 Clay       | 0 | 95   | 95   | 0  | 214  | 159  | 0.864663 | 0  | 0  | 0  | 5   | 0   | 0   | 364 | 19  | 0   | 20  | 0    | 0  | 25  | 23  | 0   | 0  | 500  |
| 803 Clay       | 0 | 229  | 229  | 0  | 520  | 434  | 0        | 0  | 0  | 0  | 0   | 0   | 0   | 0   | 6   | 0   | 0   | 0    | 0  | 0   | 0   | 0   | 0  | 6    |
| 804 Cicero     | 0 | 47   | 47   | 0  | 80   | 72   | 1.675749 | 0  | 0  | 0  | 0   | 0   | 0   | 59  | 0   | 0   | 0   | 0    | 0  | 0   | 0   | 0   | 0  | 59   |
| 805 Cicero     | 0 | 2    | 0    | 2  | 0    | 0    | 1.675749 | 0  | 76 | 0  | 0   | 178 | 0   | 73  | 0   | 7   | 4   | 0    | 0  | 108 | 60  | 0   | 0  | 548  |
| 806 Cicero     | 0 | 7    | 7    | 0  | 13   | 10   | 1.675749 | 0  | 46 | 0  | 0   | 45  | 0   | 9   | 0   | 1   | 4   | 0    | 0  | 717 | 141 | 0   | 0  | 963  |
| 807 Cicero     | 0 | 513  | 513  | 0  | 1147 | 836  | 2.803643 | 1  | 11 | 2  | 3   | 6   | 10  | 8   | 2   | 9   | 1   | 8    | 1  | 0   | 10  | 7   | 2  | 89   |
| 808 Clay       | 0 | 271  | 267  | 4  | 701  | 525  | 0        | 0  | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 0  | 0   | 0   | 0   | 23 | 23   |
| 809 Baldwinsvi | 0 | 398  | 383  | 15 | 969  | 617  | 6.720883 | 3  | 6  | 0  | 0   | 20  | 56  | 5   | 0   | 0   | 0   | 0    | 0  | 11  | 11  | 0   | 0  | 116  |
| 810 Baldwinsvi | 0 | 110  | 110  | 0  | 256  | 166  | 6.720883 | 1  | 13 | 0  | 5   | 0   | 0   | 0   | 0   | 0   | 0   | 6    | 0  | 0   | 53  | 0   | 0  | 107  |
| 811 Baldwinsvi | 0 | 93   | 93   | 0  | 247  | 149  | 6.720883 | 0  | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 0  | 0   | 0   | 0   | 0  | 0    |
| 812 Van Buren  | 0 | 331  | 331  | 0  | 803  | 612  | 0.511894 | 0  | 6  | 0  | 26  | 12  | 0   | 11  | 0   | 0   | 0   | 0    | 0  | 0   | 0   | 0   | 9  | 75   |
| 813 Clay       | 0 | 1308 | 1305 | 3  | 3149 | 2364 | 0.012619 | 1  | 10 | 0  | 22  | 60  | 125 | 21  | 0   | 0   | 0   | 19   | 0  | 0   | 6   | 9   | 0  | 273  |
| 814 Van Buren  | 0 | 243  | 243  | 0  | 312  | 195  | 3.414275 | 0  | 64 | 0  | 14  | 0   | 0   | 22  | 0   | 0   | 0   | 0    | 0  | 184 | 18  | 0   | 0  | 302  |
| 815 Lysander   | 0 | 249  | 245  | 4  | 676  | 456  | 0.87505  | 0  | 1  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 0  | 0   | 0   | 2   | 0  | 3    |
| 816 Lysander   | 0 | 133  | 133  | 0  | 270  | 184  | 0.87505  | 0  | 16 | 0  | 79  | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 0  | 13  | 0   | 0   | 0  | 108  |
| 817 Cicero     | 0 | 471  | 471  | 0  | 850  | 745  | 2.933986 | 0  | 0  | 0  | 13  | 0   | 164 | 0   | 0   | 33  | 0   | 0    | 0  | 0   | 4   | 0   | 0  | 214  |
| 818 Sullivan   | 0 | 23   | 23   | 0  | 52   | 43   | 4.2      | 0  | 1  | 0  | 1   | 1   | 2   | 1   | 1   | 2   | 0   | 2    | 0  | 1   | 1   | 0   | 1  | 15   |
| 819 Sullivan   | 0 | 50   | 50   | 0  | 94   | 80   | 4.2      | 0  | 35 | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 0  | 0   | 81  | 0   | 0  | 116  |
| 820 Clay       | 0 | 29   | 29   | 0  | 75   | 52   | 1.562922 | 1  | 33 | 9  | 0   | 174 | 45  | 97  | 0   | 39  | 0   | 0    | 0  | 130 | 48  | 18  | 0  | 601  |
| 821 Baldwinsvi | 0 | 103  | 103  | 0  | 200  | 159  | 7.077806 | 0  | 54 | 0  | 0   | 0   | 0   | 0   | 0   | 17  | 0   | 0    | 0  | 0   | 32  | 0   | 0  | 103  |
| 822 Baldwinsvi | 0 | 154  | 154  | 0  | 198  | 142  | 7.077806 | 0  | 51 | 0  | 34  | 131 | 5   | 30  | 30  | 11  | 18  | 0    | 0  | 58  | 5   | 0   | 30 | 403  |
| 823 Baldwinsvi | 0 | 185  | 185  | 0  | 433  | 321  | 7.077806 | 0  | 93 | 21 | 9   | 77  | 0   | 57  | 19  | 59  | 0   | 71   | 0  | 87  | 40  | 4   | 86 | 629  |
| 824 Baldwinsvi | 0 | 190  | 190  | 0  | 412  | 345  | 7.077806 | 0  | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 33  | 0   | 0    | 0  | 50  | 41  | 0   | 29 | 153  |
| 825 Baldwinsvi | 0 | 134  | 134  | 0  | 339  | 239  | 7.077806 | 0  | 26 | 24 | 3   | 14  | 0   | 37  | 25  | 3   | 0   | 0    | 0  | 8   | 3   | 9   | 40 | 217  |
| 826 Clay       | 0 | 398  | 398  | 0  | 1085 | 792  | 0        | 0  | 9  | 0  | 5   | 6   | 0   | 0   | 0   | 0   | 1   | 0    | 0  | 0   | 0   | 0   | 0  | 21   |
| 827 Clay       | 0 | 628  | 628  | 0  | 1761 | 1250 | 0        | 1  | 0  | 0  | 5   | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 0  | 0   | 0   | 10  | 0  | 16   |
| 828 Cicero     | 0 | 625  | 625  | 0  | 1741 | 1218 | 0        | 0  | 0  | 0  | 41  | 0   | 0   | 135 | 0   | 0   | 0   | 0    | 0  | 36  | 3   | 0   | 0  | 215  |
| 829 Clay       | 0 | 103  | 103  | 0  | 228  | 186  | 0        | 0  | 0  | 0  | 40  | 0   | 0   | 0   | 0   | 0   | 0   | 188  | 0  | 0   | 0   | 62  | 0  | 290  |
| 830 Cicero     | 0 | 226  | 226  | 0  | 508  | 394  | 0        | 0  | 29 | 0  | 22  | 62  | 0   | 31  | 80  | 8   | 0   | 0    | 0  | 565 | 107 | 37  | 0  | 949  |
| 831 Clay       | 0 | 614  | 614  | 0  | 1694 | 1235 | 0.834104 | 0  | 5  | 0  | 0   | 0   | 0   | 0   | 0   | 97  | 0   | 0    | 0  | 0   | 0   | 7   | 0  | 187  |
| 832 Clay       | 0 | 3    | 3    | 0  | 1    | 1    | 0.000037 | 0  | 26 | 0  | 0   | 0   | 26  | 0   | 0   | 0   | 0   | 0    | 0  | 23  | 0   | 0   | 0  | 75   |
| 833 Clay       | 0 | 344  | 344  | 0  | 971  | 672  | 0.000037 | 0  | 0  | 0  | 0   | 36  | 0   | 0   | 0   | 0   | 0   | 0    | 0  | 0   | 0   | 0   | 0  | 36   |
| 834 Cicero     | 0 | 227  | 227  | 0  | 461  | 368  | 0        | 2  | 57 | 0  | 29  | 88  | 0   | 42  | 0   | 10  | 37  | 0    | 0  | 2   | 340 | 146 | 16 | 777  |
| 835 Lysander   | 0 | 185  | 185  | 0  | 503  | 391  | 0.132281 | 57 | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 0  | 0   | 0   | 0   | 0  | 57   |
| 836 Lysander   | 0 | 329  | 329  | 0  | 492  | 374  | 0.87513  | 2  | 31 | 0  | 22  | 13  | 0   | 0   | 0   | 81  | 0   | 0    | 0  | 2   | 0   | 22  | 0  | 193  |
| 837 Clay       | 0 | 542  | 542  | 0  | 1418 | 931  | 1.575587 | 0  | 19 | 0  | 0   | 27  | 0   | 7   | 0   | 0   | 0   | 0    | 0  | 5   | 36  | 0   | 0  | 94   |
| 838 Clay       | 0 | 573  | 573  | 0  | 1078 | 772  | 0        | 0  | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 0  | 0   | 0   | 46  | 0  | 46   |
| 839 Lysander   | 0 | 209  | 209  | 0  | 426  | 306  | 0.000228 | 0  | 12 | 0  | 16  | 0   | 0   | 82  | 0   | 66  | 0   | 2    | 0  | 25  | 21  | 16  | 0  | 240  |
| 840 Lysander   | 0 | 98   | 98   | 0  | 127  | 98   | 0.000228 | 1  | 60 | 0  | 36  | 0   | 0   | 5   | 28  | 16  | 0   | 1943 | 0  | 0   | 153 | 2   | 3  | 2702 |
| 841 Clay       | 0 | 994  | 994  | 0  | 2835 | 1969 | 0        | 0  | 57 | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 0  | 0   | 0   | 0   | 0  | 57   |
| 842 Lysander   | 0 | 263  | 263  | 0  | 541  | 404  | 0        | 0  | 28 | 0  | 0   | 14  | 545 | 0   | 0   | 0   | 0   | 0    | 0  | 73  | 0   | 0   | 21 | 681  |
| 843 Sullivan   | 0 | 168  | 168  | 0  | 345  | 297  | 4.2      | 0  | 1  | 0  | 0   | 0   | 1   | 1   | 0   | 1   | 0   | 1    | 0  | 1   | 1   | 0   | 0  | 7    |
| 844 Baldwinsvi | 0 | 306  | 306  | 0  | 921  | 603  | 1.123708 | 0  | 0  | 42 | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 0  | 0   | 0   | 0   | 0  | 42   |
| 845 Lysander   | 0 | 196  | 196  | 0  | 541  | 342  | 1.123708 | 0  | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 0  | 0   | 9   | 0   | 0  | 9    |
| 846 Lysander   | 0 | 690  | 686  | 4  | 1548 | 1067 | 1.123708 | 0  | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 70  | 0    | 0  | 72  | 11  | 0   | 27 | 208  |
| 847 Baldwinsvi | 0 | 154  | 154  | 0  | 349  | 267  | 1.123708 | 0  | 5  | 0  | 2   | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 0  | 1   | 0   | 0   | 0  | 8    |
| 848 Lysander   | 0 | 193  | 193  | 0  | 383  | 306  | 0.934406 | 16 | 0  | 0  | 0   | 0   | 0   | 41  | 0   | 0   | 0   | 0    | 0  | 0   | 0   | 0   | 0  | 57   |



|              |   |      |      |   |      |      |          |    |    |     |    |     |     |    |    |    |    |      |   |      |     |    |      |    |    |      |      |
|--------------|---|------|------|---|------|------|----------|----|----|-----|----|-----|-----|----|----|----|----|------|---|------|-----|----|------|----|----|------|------|
| 849 Cicero   | 0 | 229  | 229  | 0 | 565  | 437  | 0        | 0  | 0  | 0   | 0  | 0   | 0   | 0  | 0  | 0  | 0  | 0    | 0 | 119  | 53  | 0  | 0    | 0  | 0  | 182  |      |
| 850 Cicero   | 0 | 503  | 503  | 0 | 1134 | 881  | 0        | 0  | 12 | 0   | 0  | 28  | 404 | 16 | 0  | 27 | 0  | 0    | 0 | 2    | 143 | 14 | 0    | 0  | 0  | 22   | 668  |
| 851 Clay     | 0 | 1379 | 1377 | 2 | 2958 | 2233 | 0.06904  | 0  | 0  | 0   | 0  | 0   | 213 | 0  | 0  | 0  | 0  | 0    | 0 | 0    | 23  | 0  | 0    | 0  | 0  | 236  |      |
| 852 Cicero   | 0 | 123  | 123  | 0 | 267  | 173  | 1.524833 | 0  | 0  | 0   | 11 | 0   | 0   | 16 | 0  | 0  | 0  | 0    | 0 | 0    | 0   | 0  | 0    | 0  | 0  | 27   |      |
| 853 Cicero   | 0 | 224  | 224  | 0 | 330  | 235  | 1.524833 | 0  | 0  | 0   | 24 | 0   | 0   | 0  | 0  | 0  | 0  | 0    | 0 | 0    | 0   | 0  | 0    | 0  | 0  | 24   |      |
| 854 Cicero   | 0 | 31   | 31   | 0 | 87   | 59   | 1.524833 | 0  | 0  | 0   | 0  | 0   | 0   | 0  | 0  | 0  | 0  | 0    | 0 | 0    | 0   | 0  | 0    | 0  | 0  | 0    |      |
| 855 Cicero   | 0 | 401  | 401  | 0 | 1161 | 721  | 1.524833 | 0  | 8  | 0   | 33 | 0   | 0   | 15 | 0  | 1  | 0  | 52   | 0 | 0    | 4   | 3  | 0    | 0  | 0  | 116  |      |
| 856 Cicero   | 0 | 138  | 138  | 0 | 398  | 257  | 1.524833 | 1  | 4  | 0   | 16 | 0   | 0   | 7  | 0  | 0  | 0  | 27   | 0 | 0    | 2   | 1  | 0    | 0  | 0  | 58   |      |
| 857 Clay     | 0 | 456  | 456  | 0 | 723  | 653  | 0.953709 | 0  | 4  | 0   | 0  | 0   | 0   | 9  | 0  | 0  | 0  | 0    | 0 | 98   | 21  | 0  | 0    | 0  | 0  | 132  |      |
| 858 Clay     | 0 | 728  | 728  | 0 | 1976 | 1477 | 0.953709 | 11 | 45 | 0   | 14 | 15  | 0   | 73 | 0  | 51 | 0  | 0    | 0 | 1    | 31  | 0  | 15   | 0  | 0  | 256  |      |
| 859 Clay     | 0 | 1119 | 1119 | 0 | 2445 | 1764 | 0.802442 | 0  | 0  | 137 | 23 | 0   | 0   | 0  | 0  | 92 | 0  | 0    | 0 | 54   | 0   | 26 | 14   | 0  | 57 | 403  |      |
| 860 Sullivan | 0 | 161  | 161  | 0 | 276  | 216  | 4.2      | 0  | 6  | 0   | 20 | 11  | 0   | 0  | 0  | 6  | 0  | 0    | 0 | 9    | 11  | 0  | 11   | 0  | 0  | 74   |      |
| 861 Clay     | 0 | 648  | 648  | 0 | 2077 | 1375 | 0        | 0  | 0  | 0   | 0  | 0   | 0   | 0  | 0  | 0  | 0  | 0    | 0 | 0    | 0   | 0  | 0    | 0  | 0  | 0    |      |
| 862 Clay     | 0 | 8    | 8    | 0 | 16   | 13   | 0.020726 | 0  | 0  | 0   | 0  | 0   | 0   | 0  | 0  | 0  | 0  | 0    | 0 | 5    | 8   | 0  | 0    | 0  | 0  | 13   |      |
| 863 Clay     | 0 | 234  | 234  | 0 | 640  | 478  | 0.020726 | 2  | 0  | 0   | 0  | 0   | 0   | 0  | 0  | 0  | 0  | 0    | 0 | 0    | 0   | 0  | 0    | 0  | 0  | 2    |      |
| 864 Clay     | 0 | 142  | 142  | 0 | 58   | 46   | 0.020726 | 0  | 16 | 0   | 0  | 0   | 0   | 0  | 0  | 0  | 0  | 0    | 0 | 236  | 12  | 0  | 0    | 16 | 0  | 280  |      |
| 865 Sullivan | 0 | 73   | 73   | 0 | 153  | 127  | 4.2      | 0  | 0  | 0   | 0  | 0   | 0   | 0  | 0  | 0  | 0  | 0    | 0 | 0    | 0   | 0  | 0    | 0  | 0  | 0    |      |
| 866 Cicero   | 0 | 443  | 443  | 0 | 1175 | 815  | 0        | 0  | 11 | 0   | 0  | 52  | 120 | 94 | 28 | 41 | 0  | 0    | 0 | 45   | 15  | 8  | 6    | 3  | 0  | 423  |      |
| 867 Clay     | 0 | 330  | 330  | 0 | 201  | 158  | 0        | 0  | 0  | 0   | 0  | 0   | 0   | 0  | 0  | 0  | 0  | 0    | 0 | 14   | 4   | 13 | 0    | 0  | 0  | 31   |      |
| 868 Clay     | 0 | 219  | 219  | 0 | 44   | 38   | 0        | 0  | 8  | 0   | 0  | 0   | 0   | 0  | 0  | 0  | 0  | 0    | 0 | 0    | 0   | 0  | 0    | 0  | 0  | 8    |      |
| 869 Lysander | 0 | 318  | 318  | 0 | 899  | 603  | 0.00002  | 0  | 43 | 0   | 0  | 0   | 0   | 0  | 0  | 0  | 0  | 0    | 0 | 0    | 0   | 0  | 0    | 0  | 0  | 43   |      |
| 870 Lysander | 0 | 600  | 600  | 0 | 1339 | 962  | 0.00002  | 0  | 28 | 0   | 19 | 0   | 0   | 0  | 0  | 0  | 0  | 0    | 0 | 19   | 0   | 0  | 0    | 0  | 0  | 66   |      |
| 871 Cicero   | 0 | 118  | 118  | 0 | 40   | 30   | 0        | 0  | 0  | 0   | 0  | 0   | 0   | 0  | 0  | 0  | 0  | 0    | 0 | 12   | 23  | 0  | 0    | 0  | 0  | 35   |      |
| 872 Cicero   | 0 | 8    | 8    | 0 | 11   | 8    | 0        | 0  | 0  | 0   | 0  | 0   | 0   | 0  | 0  | 0  | 0  | 0    | 0 | 0    | 0   | 41 | 0    | 0  | 0  | 41   |      |
| 873 Cicero   | 0 | 610  | 610  | 0 | 1622 | 1061 | 0        | 0  | 0  | 0   | 0  | 0   | 0   | 0  | 0  | 0  | 0  | 0    | 0 | 0    | 48  | 0  | 0    | 0  | 0  | 48   |      |
| 874 Cicero   | 0 | 362  | 362  | 0 | 544  | 435  | 0.985222 | 0  | 57 | 0   | 0  | 0   | 0   | 0  | 0  | 0  | 0  | 35   | 0 | 0    | 0   | 0  | 0    | 0  | 0  | 92   |      |
| 875 Cicero   | 0 | 476  | 476  | 0 | 1277 | 829  | 0.985222 | 0  | 0  | 0   | 0  | 0   | 98  | 0  | 0  | 0  | 0  | 25   | 0 | 0    | 0   | 0  | 0    | 0  | 0  | 123  |      |
| 876 Clay     | 0 | 97   | 97   | 0 | 0    | 0    | 0        | 0  | 0  | 0   | 0  | 63  | 140 | 0  | 0  | 0  | 0  | 0    | 0 | 265  | 0   | 0  | 0    | 0  | 0  | 468  |      |
| 877 Clay     | 0 | 0    | 0    | 0 | 0    | 0    | 0        | 0  | 0  | 0   | 0  | 0   | 190 | 0  | 0  | 0  | 0  | 0    | 0 | 257  | 0   | 0  | 0    | 0  | 0  | 447  |      |
| 878 Lysander | 0 | 548  | 548  | 0 | 918  | 718  | 0        | 0  | 0  | 0   | 70 | 13  | 0   | 12 | 0  | 4  | 0  | 435  | 0 | 0    | 0   | 66 | 0    | 25 | 0  | 616  | 1241 |
| 879 Clay     | 0 | 109  | 109  | 0 | 225  | 190  | 0.050476 | 0  | 5  | 1   | 2  | 3   | 7   | 4  | 3  | 6  | 0  | 6    | 0 | 7    | 4   | 1  | 3    | 0  | 3  | 55   |      |
| 880 Clay     | 0 | 7    | 7    | 0 | 2    | 2    | 0.050476 | 0  | 1  | 0   | 0  | 1   | 1   | 1  | 0  | 1  | 0  | 1    | 0 | 2    | 1   | 0  | 0    | 0  | 1  | 10   |      |
| 881 Clay     | 0 | 12   | 12   | 0 | 18   | 15   | 0.050476 | 2  | 12 | 0   | 2  | 4   | 12  | 10 | 2  | 16 | 0  | 10   | 0 | 14   | 4   | 2  | 2    | 2  | 4  | 98   |      |
| 882 Clay     | 0 | 69   | 69   | 0 | 160  | 127  | 0.050476 | 0  | 12 | 0   | 0  | 40  | 0   | 27 | 0  | 0  | 0  | 0    | 0 | 1    | 49  | 0  | 0    | 0  | 0  | 129  |      |
| 883 Lysander | 0 | 32   | 32   | 0 | 59   | 43   | 0        | 0  | 0  | 0   | 0  | 0   | 0   | 0  | 0  | 0  | 0  | 0    | 0 | 0    | 41  | 0  | 0    | 0  | 0  | 41   |      |
| 884 Cicero   | 0 | 922  | 922  | 0 | 2703 | 1886 | 0.363196 | 0  | 0  | 0   | 7  | 1   | 5   | 23 | 0  | 4  | 0  | 6    | 0 | 2    | 1   | 0  | 0    | 0  | 2  | 51   |      |
| 885 Cicero   | 0 | 282  | 282  | 0 | 850  | 582  | 0.363196 | 0  | 3  | 0   | 0  | 1   | 0   | 2  | 1  | 1  | 0  | 2    | 0 | 0    | 0   | 0  | 0    | 0  | 6  | 16   |      |
| 886 Cicero   | 0 | 180  | 180  | 0 | 486  | 342  | 0.363196 | 0  | 75 | 0   | 0  | 135 | 0   | 0  | 0  | 0  | 0  | 318  | 0 | 0    | 11  | 0  | 0    | 0  | 0  | 539  |      |
| 887 Clay     | 0 | 401  | 401  | 0 | 3    | 3    | 0        | 0  | 33 | 0   | 0  | 114 | 0   | 25 | 0  | 0  | 11 | 0    | 0 | 1446 | 57  | 0  | 0    | 0  | 0  | 1686 |      |
| 888 Clay     | 0 | 15   | 15   | 0 | 32   | 27   | 0.567692 | 0  | 4  | 0   | 0  | 0   | 0   | 0  | 0  | 0  | 0  | 0    | 0 | 1    | 2   | 4  | 0    | 0  | 0  | 11   |      |
| 889 Clay     | 0 | 23   | 23   | 0 | 62   | 46   | 0.567692 | 0  | 53 | 25  | 0  | 222 | 0   | 19 | 0  | 0  | 0  | 8    | 0 | 740  | 4   | 18 | 13   | 0  | 19 | 1121 |      |
| 890 Lysander | 0 | 367  | 367  | 0 | 832  | 617  | 0        | 0  | 5  | 0   | 0  | 0   | 0   | 0  | 0  | 0  | 0  | 0    | 0 | 0    | 0   | 0  | 0    | 2  | 5  | 12   |      |
| 891 Lysander | 0 | 265  | 265  | 0 | 695  | 532  | 0.980392 | 2  | 0  | 0   | 0  | 12  | 0   | 0  | 36 | 0  | 0  | 0    | 0 | 19   | 0   | 0  | 0    | 0  | 0  | 69   |      |
| 892 Lysander | 0 | 218  | 218  | 0 | 590  | 458  | 0.980392 | 9  | 0  | 0   | 0  | 0   | 0   | 0  | 0  | 0  | 0  | 0    | 0 | 0    | 0   | 16 | 48   | 0  | 0  | 73   |      |
| 893 Clay     | 0 | 30   | 30   | 0 | 66   | 55   | 5.501627 | 0  | 2  | 0   | 1  | 1   | 2   | 2  | 1  | 2  | 0  | 2    | 0 | 4    | 1   | 0  | 1    | 0  | 1  | 20   |      |
| 894 Clay     | 0 | 6    | 6    | 0 | 9    | 9    | 5.501627 | 0  | 0  | 0   | 42 | 17  | 0   | 0  | 73 | 0  | 0  | 17   | 0 | 25   | 10  | 0  | 0    | 0  | 0  | 184  |      |
| 895 Lysander | 0 | 648  | 641  | 7 | 1429 | 1055 | 0        | 0  | 0  | 0   | 0  | 0   | 77  | 1  | 0  | 0  | 0  | 0    | 0 | 0    | 0   | 0  | 0    | 0  | 0  | 78   |      |
| 896 Lysander | 0 | 261  | 261  | 0 | 693  | 536  | 1.039868 | 0  | 7  | 0   | 0  | 0   | 0   | 0  | 0  | 0  | 0  | 0    | 0 | 49   | 6   | 0  | 0    | 0  | 0  | 62   |      |
| 1112 Clay    | 0 | 210  | 210  | 0 | 103  | 81   | 5.411348 | 0  | 0  | 0   | 0  | 0   | 0   | 0  | 0  | 0  | 0  | 0    | 0 | 0    | 0   | 0  | 0    | 0  | 0  | 0    |      |
| 1109 Clay    | 0 | 9    | 9    | 0 | 21   | 16   | 5.411348 | 19 | 0  | 0   | 0  | 0   | 0   | 0  | 0  | 0  | 0  | 0    | 0 | 0    | 0   | 0  | 0    | 0  | 0  | 19   |      |
| 1110 Clay    | 0 | 12   | 12   | 0 | 27   | 22   | 5.411348 | 0  | 0  | 0   | 0  | 0   | 0   | 0  | 0  | 0  | 0  | 0    | 0 | 0    | 0   | 0  | 0    | 0  | 45 | 45   |      |
| 1111 Clay    | 0 | 10   | 10   | 0 | 23   | 18   | 5.411348 | 0  | 0  | 0   | 0  | 0   | 0   | 0  | 0  | 0  | 0  | 1000 | 0 | 0    | 0   | 0  | 2000 | 0  | 0  | 3000 |      |
| 898 Clay     | 0 | 73   | 73   | 0 | 59   | 46   | 5.498274 | 0  | 0  | 0   | 0  | 15  | 0   | 0  | 0  | 0  | 0  | 0    | 0 | 0    | 0   | 7  | 0    | 0  | 0  | 22   |      |
| 899 Clay     | 0 | 48   | 48   | 0 | 19   | 20   | 0        | 0  | 0  | 0   | 0  | 0   | 0   | 0  | 0  | 0  | 0  | 0    | 0 | 0    | 0   | 0  | 0    | 0  | 0  | 0    |      |
| 900 Clay     | 0 | 26   | 26   | 0 | 58   | 45   | 0        | 0  | 0  | 0   | 0  | 0   | 0   | 0  | 0  | 0  | 0  | 0    | 0 | 6    | 0   | 0  | 0    | 0  | 0  | 6    |      |
| 901 Clay     | 0 | 84   | 84   | 0 | 62   | 51   | 0        | 0  | 9  | 0   | 0  | 9   | 9   | 9  | 0  | 9  | 0  | 9    | 0 | 19   | 9   | 0  | 0    | 0  | 9  | 91   |      |
| 902 Cicero   | 0 | 483  | 483  | 0 | 1061 | 758  | 0        | 0  | 0  | 0   | 6  | 55  | 0   | 14 | 0  | 0  | 0  | 0    | 0 | 1    | 87  | 0  | 0    | 0  | 0  | 163  |      |
| 903 Cicero   | 0 | 143  | 143  | 0 | 188  | 147  | 0.001508 | 0  | 16 | 6   | 39 | 5   | 0   | 0  | 0  | 0  | 39 | 8    | 0 | 23   | 19  | 0  | 0    | 0  | 4  | 159  |      |
| 904 Cicero   | 0 | 196  | 196  | 0 | 107  | 87   | 0.001508 | 0  | 54 | 0   | 6  | 122 | 11  | 55 | 0  | 31 | 0  | 3    | 0 | 110  | 13  | 20 | 47   | 0  | 33 | 505  |      |
| 905 Cicero   | 0 | 183  | 183  | 0 | 348  | 258  | 0.001508 | 0  | 35 | 0   | 9  | 89  | 0   | 24 | 0  | 0  | 0  | 0    | 0 | 68   | 48  | 0  | 0    | 0  | 0  | 273  |      |
| 906 Clay     | 0 | 33   | 33   | 0 | 73   | 57   | 0        | 0  | 0  | 0   | 0  | 0   | 0   | 0  | 0  | 0  | 0  | 0    | 0 | 0    | 0   | 0  | 0    | 0  | 0  | 0    |      |



|                |   |     |     |   |      |     |          |    |     |    |    |     |     |    |     |    |    |     |   |     |     |    |    |    |     |     |     |
|----------------|---|-----|-----|---|------|-----|----------|----|-----|----|----|-----|-----|----|-----|----|----|-----|---|-----|-----|----|----|----|-----|-----|-----|
| 907 Clay       | 0 | 101 | 101 | 0 | 58   | 48  | 0        | 0  | 0   | 0  | 0  | 0   | 0   | 0  | 0   | 0  | 0  | 0   | 0 | 0   | 0   | 0  | 0  | 0  | 0   |     |     |
| 908 Clay       | 0 | 119 | 119 | 0 | 263  | 224 | 0        | 0  | 0   | 0  | 0  | 0   | 1   | 0  | 0   | 1  | 0  | 1   | 0 | 0   | 0   | 0  | 0  | 0  | 3   |     |     |
| 909 Lysander   | 0 | 404 | 404 | 0 | 1034 | 725 | 0        | 2  | 0   | 0  | 0  | 0   | 30  | 0  | 0   | 0  | 0  | 0   | 0 | 0   | 0   | 0  | 0  | 0  | 32  |     |     |
| 910 Lysander   | 0 | 95  | 95  | 0 | 187  | 164 | 0        | 0  | 0   | 0  | 16 | 0   | 0   | 0  | 0   | 0  | 0  | 0   | 0 | 4   | 0   | 0  | 0  | 0  | 20  |     |     |
| 911 Schroeppe  | 0 | 65  | 65  | 0 | 119  | 107 | 4.2      | 0  | 10  | 0  | 0  | 0   | 0   | 21 | 0   | 15 | 0  | 0   | 0 | 59  | 21  | 0  | 0  | 0  | 9   | 135 |     |
| 912 Cicero     | 0 | 303 | 303 | 0 | 683  | 532 | 0        | 0  | 3   | 0  | 0  | 0   | 0   | 0  | 0   | 0  | 0  | 0   | 0 | 0   | 0   | 20 | 0  | 0  | 23  |     |     |
| 913 Cicero     | 0 | 89  | 89  | 0 | 238  | 177 | 0        | 0  | 138 | 0  | 0  | 0   | 0   | 0  | 0   | 0  | 0  | 0   | 0 | 0   | 0   | 0  | 0  | 0  | 138 |     |     |
| 914 Phoenix    | 0 | 111 | 107 | 4 | 242  | 166 | 4.2      | 0  | 0   | 0  | 0  | 0   | 0   | 0  | 0   | 0  | 0  | 44  | 0 | 0   | 0   | 0  | 0  | 0  | 44  |     |     |
| 915 Lysander   | 0 | 150 | 150 | 0 | 395  | 307 | 0        | 0  | 19  | 0  | 0  | 0   | 0   | 0  | 0   | 0  | 0  | 0   | 0 | 7   | 0   | 0  | 0  | 0  | 9   | 35  |     |
| 916 Cicero     | 0 | 512 | 512 | 0 | 1442 | 989 | 0.020267 | 0  | 9   | 2  | 4  | 5   | 9   | 6  | 3   | 9  | 0  | 8   | 0 | 0   | 11  | 5  | 2  | 3  | 0   | 5   | 81  |
| 917 Phoenix    | 0 | 151 | 151 | 0 | 353  | 225 | 4.2      | 0  | 0   | 0  | 0  | 9   | 0   | 0  | 0   | 0  | 0  | 12  | 0 | 0   | 0   | 0  | 0  | 6  | 0   | 27  |     |
| 918 Clay       | 0 | 198 | 198 | 0 | 485  | 379 | 1.224585 | 0  | 3   | 0  | 2  | 2   | 5   | 3  | 2   | 5  | 0  | 2   | 0 | 0   | 8   | 2  | 0  | 2  | 2   | 40  |     |
| 919 Clay       | 0 | 230 | 230 | 0 | 412  | 313 | 1.224585 | 0  | 1   | 0  | 1  | 1   | 1   | 1  | 1   | 1  | 0  | 1   | 0 | 0   | 3   | 1  | 1  | 1  | 0   | 1   | 15  |
| 920 Phoenix    | 0 | 92  | 92  | 0 | 209  | 133 | 4.2      | 3  | 0   | 0  | 37 | 3   | 74  | 11 | 104 | 3  | 0  | 0   | 0 | 0   | 16  | 0  | 0  | 37 | 0   | 8   | 296 |
| 921 Phoenix    | 0 | 98  | 98  | 0 | 217  | 144 | 4.2      | 0  | 1   | 0  | 0  | 1   | 1   | 1  | 0   | 1  | 0  | 1   | 0 | 0   | 2   | 1  | 0  | 0  | 0   | 1   | 10  |
| 922 Clay       | 0 | 333 | 333 | 0 | 224  | 170 | 5.501619 | 0  | 0   | 0  | 1  | 0   | 0   | 2  | 0   | 0  | 0  | 0   | 0 | 0   | 1   | 0  | 0  | 0  | 0   | 0   | 4   |
| 923 Clay       | 0 | 53  | 53  | 0 | 71   | 60  | 5.501619 | 0  | 0   | 0  | 0  | 0   | 0   | 0  | 0   | 0  | 0  | 0   | 0 | 0   | 0   | 0  | 0  | 0  | 0   | 0   | 0   |
| 924 Phoenix    | 0 | 175 | 175 | 0 | 392  | 249 | 4.2      | 0  | 0   | 0  | 76 | 0   | 0   | 0  | 0   | 0  | 0  | 0   | 0 | 0   | 0   | 0  | 0  | 0  | 0   | 0   | 76  |
| 925 Phoenix    | 0 | 83  | 83  | 0 | 151  | 103 | 4.2      | 0  | 15  | 0  | 8  | 8   | 0   | 0  | 15  | 0  | 0  | 4   | 0 | 0   | 11  | 15 | 0  | 0  | 0   | 0   | 76  |
| 926 Phoenix    | 0 | 59  | 59  | 0 | 147  | 96  | 4.2      | 0  | 1   | 0  | 1  | 1   | 2   | 1  | 1   | 2  | 0  | 2   | 0 | 0   | 1   | 1  | 0  | 1  | 0   | 1   | 15  |
| 927 Cicero     | 0 | 281 | 281 | 0 | 696  | 472 | 2.233359 | 0  | 7   | 0  | 86 | 0   | 0   | 2  | 0   | 1  | 0  | 170 | 0 | 0   | 10  | 11 | 0  | 0  | 0   | 1   | 288 |
| 928 Cicero     | 0 | 414 | 414 | 0 | 803  | 643 | 2.233359 | 1  | 24  | 1  | 4  | 101 | 95  | 11 | 0   | 2  | 13 | 0   | 0 | 0   | 11  | 12 | 1  | 0  | 0   | 0   | 276 |
| 929 Cicero     | 0 | 432 | 432 | 0 | 1183 | 816 | 2.233359 | 0  | 12  | 0  | 3  | 12  | 0   | 0  | 0   | 0  | 0  | 3   | 0 | 0   | 12  | 3  | 0  | 0  | 0   | 3   | 48  |
| 930 Phoenix    | 0 | 90  | 90  | 0 | 184  | 126 | 4.2      | 0  | 0   | 0  | 0  | 0   | 0   | 0  | 0   | 11 | 0  | 11  | 0 | 0   | 2   | 0  | 11 | 0  | 0   | 0   | 35  |
| 931 Phoenix    | 0 | 33  | 33  | 0 | 54   | 41  | 4.2      | 0  | 0   | 0  | 11 | 0   | 242 | 0  | 0   | 0  | 0  | 0   | 0 | 0   | 0   | 0  | 0  | 0  | 0   | 0   | 253 |
| 932 Phoenix    | 0 | 55  | 55  | 0 | 135  | 83  | 4.2      | 0  | 9   | 0  | 0  | 0   | 96  | 9  | 0   | 0  | 0  | 0   | 0 | 0   | 1   | 0  | 0  | 0  | 0   | 0   | 115 |
| 933 Cicero     | 0 | 128 | 128 | 0 | 273  | 215 | 5.362776 | 0  | 8   | 19 | 36 | 49  | 64  | 0  | 0   | 14 | 0  | 0   | 0 | 0   | 21  | 0  | 0  | 2  | 0   | 2   | 215 |
| 934 Cicero     | 0 | 139 | 139 | 0 | 319  | 240 | 5.362776 | 0  | 5   | 0  | 25 | 20  | 0   | 14 | 24  | 3  | 0  | 0   | 0 | 0   | 11  | 5  | 0  | 10 | 0   | 1   | 118 |
| 935 Phoenix    | 0 | 151 | 151 | 0 | 243  | 189 | 4.2      | 0  | 0   | 0  | 0  | 0   | 0   | 0  | 0   | 0  | 0  | 19  | 0 | 0   | 0   | 0  | 0  | 0  | 4   | 23  |     |
| 936 Hastings   | 0 | 78  | 78  | 0 | 153  | 138 | 4.2      | 0  | 3   | 1  | 1  | 1   | 4   | 3  | 1   | 4  | 0  | 4   | 0 | 0   | 4   | 3  | 1  | 1  | 0   | 1   | 32  |
| 937 Hastings   | 0 | 136 | 136 | 0 | 273  | 207 | 4.2      | 0  | 12  | 0  | 82 | 3   | 0   | 0  | 0   | 0  | 0  | 0   | 0 | 10  | 14  | 23 | 0  | 10 | 0   | 21  | 175 |
| 938 Hastings   | 0 | 175 | 175 | 0 | 373  | 319 | 4.2      | 0  | 2   | 1  | 1  | 1   | 3   | 2  | 1   | 3  | 0  | 3   | 0 | 0   | 3   | 2  | 1  | 1  | 0   | 1   | 25  |
| 939 Hastings   | 0 | 111 | 111 | 0 | 216  | 158 | 4.2      | 0  | 7   | 0  | 0  | 55  | 361 | 0  | 12  | 0  | 0  | 0   | 0 | 0   | 4   | 7  | 0  | 0  | 0   | 7   | 453 |
| 940 Central Sq | 0 | 147 | 147 | 0 | 387  | 274 | 4.2      | 0  | 0   | 0  | 2  | 13  | 0   | 2  | 0   | 13 | 0  | 6   | 0 | 6   | 4   | 9  | 0  | 0  | 0   | 0   | 55  |
| 941 Central Sq | 0 | 233 | 233 | 0 | 293  | 251 | 4.2      | 22 | 0   | 0  | 0  | 0   | 0   | 0  | 0   | 0  | 0  | 0   | 0 | 0   | 44  | 10 | 0  | 0  | 0   | 0   | 76  |
| 942 Central Sq | 0 | 108 | 108 | 0 | 245  | 181 | 4.2      | 0  | 0   | 0  | 44 | 0   | 226 | 0  | 0   | 22 | 0  | 0   | 0 | 0   | 22  | 12 | 0  | 0  | 0   | 0   | 326 |
| 943 Central Sq | 0 | 92  | 92  | 0 | 173  | 129 | 4.2      | 0  | 6   | 1  | 2  | 3   | 7   | 4  | 2   | 7  | 0  | 6   | 0 | 0   | 8   | 3  | 1  | 2  | 0   | 3   | 55  |
| 944 Central Sq | 0 | 210 | 203 | 7 | 472  | 319 | 4.2      | 0  | 9   | 0  | 4  | 46  | 0   | 4  | 0   | 13 | 0  | 0   | 0 | 9   | 138 | 13 | 0  | 0  | 0   | 0   | 236 |
| 945 Central Sq | 0 | 128 | 128 | 0 | 214  | 207 | 4.2      | 0  | 0   | 0  | 0  | 0   | 0   | 0  | 0   | 0  | 0  | 0   | 0 | 662 | 0   | 0  | 0  | 0  | 0   | 0   | 662 |
| 946 Central Sq | 0 | 230 | 230 | 0 | 566  | 381 | 4.2      | 0  | 0   | 0  | 27 | 0   | 0   | 0  | 0   | 0  | 0  | 0   | 0 | 0   | 0   | 0  | 6  | 0  | 0   | 0   | 33  |
| 947 Hastings   | 0 | 28  | 28  | 0 | 58   | 46  | 4.2      | 0  | 1   | 0  | 1  | 1   | 2   | 1  | 1   | 2  | 0  | 2   | 0 | 0   | 1   | 1  | 0  | 1  | 0   | 1   | 15  |
| 948 Hastings   | 0 | 114 | 114 | 0 | 237  | 196 | 4.2      | 0  | 1   | 0  | 0  | 1   | 1   | 1  | 0   | 1  | 0  | 1   | 0 | 0   | 3   | 1  | 0  | 0  | 0   | 1   | 11  |
| 949 Hastings   | 0 | 24  | 24  | 0 | 62   | 51  | 4.2      | 0  | 0   | 0  | 0  | 0   | 0   | 0  | 0   | 0  | 0  | 0   | 0 | 0   | 0   | 0  | 0  | 0  | 0   | 0   | 0   |
| 950 Hastings   | 0 | 22  | 22  | 0 | 58   | 41  | 4.2      | 0  | 0   | 0  | 0  | 0   | 0   | 0  | 0   | 0  | 0  | 0   | 0 | 0   | 0   | 0  | 0  | 0  | 0   | 0   | 0   |
| 951 Hastings   | 0 | 146 | 146 | 0 | 245  | 231 | 4.2      | 0  | 7   | 2  | 3  | 4   | 9   | 6  | 3   | 9  | 1  | 8   | 0 | 0   | 8   | 5  | 2  | 4  | 0   | 4   | 75  |
| 952 Hastings   | 0 | 24  | 24  | 0 | 56   | 43  | 4.2      | 0  | 0   | 0  | 0  | 0   | 0   | 0  | 0   | 0  | 0  | 0   | 0 | 0   | 0   | 0  | 0  | 0  | 0   | 0   | 0   |
| 953 Hastings   | 0 | 95  | 95  | 0 | 221  | 172 | 4.2      | 0  | 0   | 0  | 0  | 0   | 11  | 0  | 0   | 0  | 0  | 1   | 0 | 0   | 0   | 0  | 0  | 0  | 0   | 0   | 12  |
| 954 Hastings   |   |     |     |   |      |     |          |    |     |    |    |     |     |    |     |    |    |     |   |     |     |    |    |    |     |     |     |



|                |   |     |     |   |      |     |     |    |    |    |    |    |     |    |    |     |    |     |    |    |    |     |    |     |     |
|----------------|---|-----|-----|---|------|-----|-----|----|----|----|----|----|-----|----|----|-----|----|-----|----|----|----|-----|----|-----|-----|
| 968 Sullivan   | 0 | 8   | 8   | 0 | 16   | 13  | 4.2 | 0  | 0  | 0  | 0  | 0  | 0   | 0  | 0  | 0   | 0  | 0   | 0  | 0  | 0  | 0   | 0  | 0   | 0   |
| 969 Sullivan   | 0 | 37  | 37  | 0 | 82   | 68  | 4.2 | 0  | 0  | 0  | 5  | 0  | 0   | 0  | 0  | 0   | 0  | 0   | 0  | 0  | 0  | 0   | 0  | 0   | 5   |
| 970 Sullivan   | 0 | 33  | 33  | 0 | 91   | 71  | 4.2 | 48 | 0  | 0  | 12 | 0  | 0   | 0  | 0  | 0   | 0  | 0   | 0  | 0  | 0  | 2   | 0  | 0   | 62  |
| 971 Sullivan   | 0 | 17  | 17  | 0 | 44   | 35  | 4.2 | 0  | 0  | 0  | 0  | 0  | 0   | 0  | 0  | 0   | 0  | 0   | 0  | 2  | 0  | 0   | 0  | 0   | 2   |
| 972 Sullivan   | 0 | 12  | 12  | 0 | 22   | 17  | 4.2 | 0  | 0  | 0  | 0  | 0  | 0   | 0  | 0  | 0   | 0  | 0   | 0  | 0  | 0  | 0   | 0  | 0   | 0   |
| 973 Sullivan   | 0 | 53  | 53  | 0 | 141  | 106 | 4.2 | 0  | 0  | 0  | 0  | 0  | 0   | 0  | 0  | 0   | 0  | 0   | 0  | 0  | 0  | 0   | 0  | 0   | 0   |
| 974 Sullivan   | 0 | 44  | 44  | 0 | 105  | 88  | 4.2 | 0  | 0  | 0  | 0  | 0  | 0   | 0  | 0  | 0   | 0  | 0   | 0  | 8  | 8  | 0   | 0  | 0   | 16  |
| 975 Sullivan   | 0 | 110 | 110 | 0 | 277  | 215 | 4.2 | 2  | 5  | 0  | 5  | 0  | 0   | 5  | 0  | 0   | 0  | 0   | 0  | 0  | 0  | 2   | 5  | 0   | 24  |
| 976 Sullivan   | 0 | 45  | 45  | 0 | 121  | 91  | 4.2 | 0  | 0  | 0  | 0  | 0  | 0   | 0  | 0  | 0   | 0  | 0   | 0  | 0  | 1  | 0   | 0  | 0   | 4   |
| 977 Sullivan   | 0 | 93  | 93  | 0 | 242  | 194 | 4.2 | 0  | 0  | 0  | 7  | 0  | 0   | 0  | 0  | 0   | 0  | 0   | 0  | 2  | 1  | 2   | 0  | 0   | 12  |
| 978 Sullivan   | 0 | 25  | 25  | 0 | 56   | 48  | 4.2 | 3  | 0  | 0  | 0  | 0  | 0   | 0  | 0  | 0   | 0  | 0   | 0  | 0  | 0  | 15  | 0  | 100 | 118 |
| 979 Sullivan   | 0 | 42  | 42  | 0 | 95   | 81  | 4.2 | 3  | 0  | 0  | 6  | 0  | 0   | 0  | 0  | 0   | 0  | 0   | 0  | 1  | 0  | 0   | 0  | 0   | 10  |
| 980 Sullivan   | 0 | 97  | 97  | 0 | 244  | 196 | 4.2 | 0  | 1  | 0  | 0  | 0  | 0   | 0  | 0  | 0   | 0  | 0   | 0  | 0  | 0  | 3   | 0  | 3   | 10  |
| 981 Sullivan   | 0 | 73  | 73  | 0 | 185  | 144 | 4.2 | 3  | 0  | 0  | 2  | 6  | 0   | 0  | 0  | 1   | 0  | 0   | 0  | 4  | 0  | 0   | 0  | 0   | 16  |
| 982 Sullivan   | 0 | 188 | 188 | 0 | 459  | 360 | 4.2 | 0  | 1  | 0  | 4  | 0  | 4   | 0  | 0  | 1   | 0  | 0   | 0  | 4  | 0  | 1   | 0  | 0   | 15  |
| 983 Sullivan   | 0 | 8   | 8   | 0 | 21   | 18  | 4.2 | 0  | 0  | 0  | 0  | 0  | 0   | 0  | 0  | 0   | 0  | 0   | 0  | 1  | 0  | 0   | 0  | 0   | 1   |
| 984 Sullivan   | 0 | 89  | 89  | 0 | 215  | 172 | 4.2 | 9  | 1  | 0  | 16 | 0  | 0   | 4  | 0  | 0   | 0  | 0   | 0  | 52 | 0  | 14  | 0  | 0   | 100 |
| 985 Sullivan   | 0 | 25  | 25  | 0 | 63   | 46  | 4.2 | 0  | 3  | 0  | 0  | 0  | 0   | 0  | 0  | 0   | 8  | 0   | 0  | 0  | 1  | 0   | 0  | 0   | 12  |
| 986 Sullivan   | 0 | 95  | 95  | 0 | 261  | 192 | 4.2 | 0  | 2  | 0  | 0  | 0  | 0   | 0  | 0  | 0   | 2  | 0   | 0  | 0  | 8  | 0   | 0  | 0   | 12  |
| 987 Sullivan   | 0 | 32  | 32  | 0 | 71   | 58  | 4.2 | 6  | 0  | 0  | 2  | 0  | 0   | 0  | 0  | 0   | 0  | 0   | 0  | 0  | 0  | 6   | 0  | 0   | 14  |
| 988 Sullivan   | 0 | 126 | 126 | 0 | 325  | 260 | 4.2 | 0  | 2  | 0  | 0  | 0  | 0   | 0  | 0  | 0   | 25 | 0   | 0  | 0  | 4  | 0   | 0  | 0   | 33  |
| 989 Chittenang | 0 | 133 | 133 | 0 | 341  | 230 | 4.2 | 4  | 2  | 4  | 1  | 0  | 0   | 4  | 0  | 4   | 10 | 0   | 0  | 2  | 2  | 2   | 0  | 0   | 35  |
| 990 Chittenang | 0 | 54  | 54  | 0 | 123  | 108 | 4.2 | 0  | 1  | 0  | 2  | 0  | 0   | 0  | 0  | 5   | 0  | 0   | 0  | 0  | 0  | 0   | 0  | 0   | 8   |
| 991 Chittenang | 0 | 35  | 35  | 0 | 84   | 69  | 4.2 | 0  | 2  | 0  | 7  | 0  | 0   | 2  | 0  | 2   | 0  | 0   | 0  | 5  | 2  | 0   | 0  | 0   | 20  |
| 992 Chittenang | 0 | 510 | 510 | 0 | 1178 | 825 | 4.2 | 0  | 1  | 39 | 11 | 0  | 109 | 1  | 0  | 3   | 0  | 0   | 0  | 37 | 13 | 9   | 0  | 0   | 231 |
| 993 Chittenang | 0 | 157 | 157 | 0 | 327  | 279 | 4.2 | 0  | 12 | 7  | 13 | 62 | 0   | 69 | 20 | 18  | 9  | 69  | 0  | 0  | 51 | 18  | 3  | 0   | 358 |
| 994 Sullivan   | 0 | 78  | 78  | 0 | 165  | 120 | 4.2 | 0  | 5  | 16 | 5  | 3  | 0   | 5  | 8  | 0   | 1  | 199 | 0  | 0  | 49 | 9   | 0  | 8   | 320 |
| 995 Chittenang | 0 | 347 | 339 | 8 | 788  | 545 | 4.2 | 0  | 2  | 0  | 5  | 10 | 17  | 92 | 7  | 26  | 1  | 3   | 0  | 0  | 12 | 9   | 8  | 7   | 199 |
| 996 Chittenang | 0 | 494 | 494 | 0 | 1169 | 798 | 4.2 | 1  | 8  | 0  | 1  | 0  | 15  | 10 | 0  | 35  | 0  | 45  | 10 | 0  | 1  | 599 | 15 | 10  | 750 |
| 997 Sullivan   | 0 | 125 | 125 | 0 | 261  | 193 | 4.2 | 0  | 0  | 1  | 4  | 0  | 0   | 11 | 0  | 4   | 0  | 0   | 0  | 14 | 5  | 1   | 0  | 0   | 40  |
| 998 Sullivan   | 0 | 299 | 293 | 6 | 735  | 559 | 4.2 | 1  | 2  | 0  | 7  | 10 | 13  | 0  | 0  | 1   | 1  | 0   | 0  | 4  | 1  | 1   | 5  | 0   | 46  |
| 999 Sullivan   | 0 | 8   | 8   | 0 | 21   | 18  | 4.2 | 0  | 0  | 0  | 0  | 0  | 0   | 0  | 0  | 0   | 0  | 0   | 0  | 0  | 0  | 0   | 0  | 0   | 0   |
| 1000 Sullivan  | 0 | 34  | 34  | 0 | 77   | 59  | 4.2 | 0  | 0  | 0  | 0  | 0  | 0   | 0  | 0  | 0   | 0  | 0   | 0  | 0  | 0  | 0   | 0  | 0   | 27  |
| 1001 Sullivan  | 0 | 33  | 33  | 0 | 81   | 66  | 4.2 | 0  | 1  | 0  | 16 | 12 | 0   | 0  | 0  | 0   | 2  | 0   | 0  | 0  | 0  | 0   | 0  | 0   | 33  |
| 1002 Sullivan  | 0 | 33  | 33  | 0 | 84   | 64  | 4.2 | 0  | 4  | 0  | 0  | 0  | 0   | 0  | 69 | 140 | 0  | 0   | 0  | 0  | 0  | 12  | 0  | 0   | 225 |
| 1003 Sullivan  | 0 | 67  | 67  | 0 | 141  | 125 | 4.2 | 0  | 5  | 0  | 9  | 0  | 0   | 0  | 0  | 33  | 0  | 28  | 0  | 0  | 0  | 5   | 9  | 0   | 89  |
| 1004 Sullivan  | 0 | 37  | 37  | 0 | 70   | 68  | 4.2 | 0  | 2  | 0  | 2  | 0  | 3   | 3  | 0  | 0   | 0  | 7   | 0  | 0  | 0  | 3   | 3  | 3   | 28  |
| 1005 Sullivan  | 0 | 22  | 22  | 0 | 49   | 42  | 4.2 | 0  | 0  | 0  | 0  | 0  | 0   | 0  | 0  | 0   | 0  | 0   | 0  | 11 | 0  | 0   | 0  | 0   | 11  |
| 1006 Sullivan  | 0 | 104 | 104 | 0 | 225  | 164 | 4.2 | 0  | 0  | 0  | 1  | 4  | 0   | 4  | 0  | 0   | 0  | 0   | 0  | 2  | 1  | 0   | 0  | 0   | 12  |
| 1007 Sullivan  | 0 | 73  | 73  | 0 | 152  | 136 | 4.2 | 0  | 0  | 0  | 3  | 0  | 0   | 5  | 0  | 121 | 0  | 2   | 0  | 0  | 6  | 2   | 2  | 0   | 141 |
| 1008 Sullivan  | 0 | 37  | 37  | 0 | 92   | 74  | 4.2 | 0  | 0  | 0  | 1  | 0  | 0   | 0  | 0  | 0   | 16 | 2   | 0  | 0  | 4  | 2   | 0  | 0   | 25  |
| 1009 Granby    | 0 | 47  | 47  | 0 | 106  | 80  | 4.2 | 0  | 0  | 0  | 9  | 0  | 0   | 0  | 0  | 0   | 0  | 0   | 0  | 1  | 0  | 0   | 0  | 0   | 10  |
| 1010 Schroeppe | 0 | 60  | 60  | 0 | 133  | 109 | 4.2 | 0  | 3  | 0  | 7  | 0  | 0   | 0  | 0  | 0   | 0  | 0   | 0  | 2  | 0  | 0   | 0  | 0   | 15  |
| 1011 Schroeppe | 0 | 145 | 145 | 0 | 381  | 284 | 4.2 | 0  | 1  | 0  | 2  | 0  | 0   | 2  | 0  | 0   | 0  | 0   | 0  | 0  | 2  | 0   | 0  | 0   | 7   |
| 1012 Schroeppe | 0 | 83  | 83  | 0 | 224  | 162 | 4.2 | 2  | 0  | 0  | 0  | 3  | 0   | 0  | 0  | 0   | 0  | 0   | 0  | 3  | 0  | 0   | 0  | 0   | 8   |
| 1013 Schroeppe | 0 | 30  | 30  | 0 | 69   | 55  | 4.2 | 2  | 2  | 0  | 0  | 0  | 96  | 0  | 0  | 7   | 0  | 27  | 0  | 0  | 12 | 20  | 2  | 3   | 186 |
| 1014 Schroeppe | 0 | 42  | 42  | 0 | 109  | 85  | 4.2 | 0  | 0  | 0  | 12 | 0  | 0   | 0  | 0  | 6   | 0  | 6   | 0  | 0  | 10 | 0   | 0  | 0   | 34  |
| 1015 Schroeppe | 0 | 36  | 36  | 0 | 83   | 66  | 4.2 | 0  | 0  | 0  | 3  | 0  | 2   | 0  | 0  | 0   | 0  | 0   | 0  | 8  | 2  | 2   | 0  | 0   | 17  |
| 1016 Schroeppe | 0 | 18  | 18  | 0 | 43   | 34  | 4.2 | 13 | 0  | 0  | 0  | 0  | 0   | 0  | 0  | 0   | 0  | 0   | 0  | 0  | 0  | 0   | 0  | 0   | 13  |
| 1017 Schroeppe | 0 | 71  | 71  | 0 | 170  | 135 | 4.2 | 0  | 0  | 0  | 8  | 0  | 0   | 0  | 0  | 0   | 4  | 0   | 0  | 1  | 0  | 1   | 0  | 0   | 14  |
| 1018 Schroeppe | 0 | 32  | 32  | 0 | 75   | 62  | 4.2 | 0  | 0  | 0  | 0  | 0  | 0   | 0  | 0  | 0   | 6  | 0   | 0  | 0  | 0  | 0   | 0  | 0   | 6   |
| 1019 Schroeppe | 0 | 36  | 36  | 0 | 102  | 74  | 4.2 | 1  | 0  | 0  | 0  | 0  | 0   | 0  | 0  | 0   | 0  | 0   | 0  | 1  | 0  | 0   | 0  | 0   | 2   |
| 1020 Schroeppe | 0 | 44  | 44  | 0 | 117  | 87  | 4.2 | 0  | 0  | 0  | 1  | 0  | 0   | 0  | 0  | 0   | 0  | 0   | 0  | 0  | 2  | 0   | 0  | 0   | 3   |
| 1021 Schroeppe | 0 | 70  | 70  | 0 | 178  | 134 | 4.2 | 0  | 0  | 0  | 1  | 0  | 0   | 0  | 0  | 0   | 0  | 0   | 0  | 3  | 2  | 0   | 0  | 0   | 6   |
| 1022 Schroeppe | 0 | 16  | 16  | 0 | 30   | 26  | 4.2 | 0  | 0  | 0  | 0  | 0  | 0   | 0  | 0  | 0   | 0  | 0   | 0  | 0  | 0  | 0   | 0  | 0   | 0   |
| 1023 Schroeppe | 0 | 226 | 226 | 0 | 592  | 433 | 4.2 | 0  | 3  | 3  | 0  | 0  | 0   | 0  | 0  | 11  | 0  | 0   | 0  | 0  | 0  | 0   | 0  | 0   | 17  |
| 1024 Schroeppe | 0 | 59  | 59  | 0 | 131  | 106 | 4.2 | 0  | 2  | 0  | 3  | 0  | 0   | 0  | 0  | 0   | 0  | 0   | 0  | 2  | 3  | 0   | 3  | 0   | 13  |
| 1025 Schroeppe | 0 | 100 | 100 | 0 | 248  | 191 | 4.2 | 9  | 0  | 0  | 0  | 0  | 9   | 0  | 0  | 9   | 0  | 0   | 0  | 0  | 4  | 21  | 14 | 0   | 68  |
| 1026 Schroeppe | 0 | 32  | 32  | 0 | 74   | 59  | 4.2 | 0  | 0  | 0  | 0  | 0  | 0   | 0  | 0  | 0   | 0  | 0   | 0  | 0  | 0  | 2   | 0  | 0   | 2   |
| 1027 Schroeppe | 0 | 49  | 49  | 0 | 123  | 97  | 4.2 | 0  | 0  | 0  | 0  | 0  | 0   | 0  | 0  | 0   | 0  | 0   | 0  | 2  | 0  | 0   | 0  | 0   | 2   |
| 1028 Schroeppe | 0 | 57  | 57  | 0 | 121  | 99  | 4.2 | 0  | 3  | 0  | 0  | 2  | 2   | 2  | 0  | 0   | 0  | 0   | 0  | 1  | 0  | 0   | 0  | 0   | 10  |



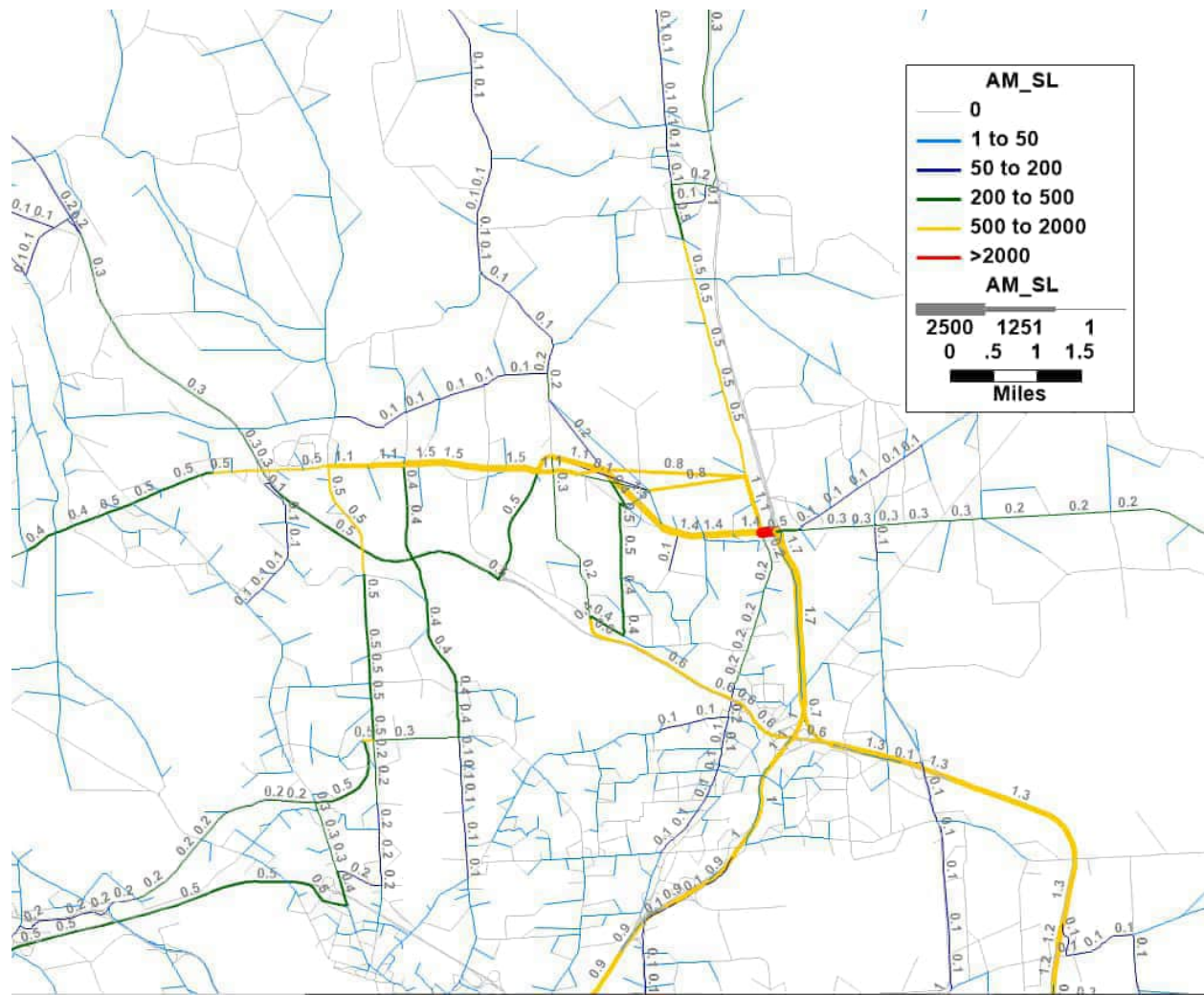
|                |   |     |     |   |     |     |     |   |    |   |    |    |   |   |    |    |    |    |   |    |    |    |    |   |     |
|----------------|---|-----|-----|---|-----|-----|-----|---|----|---|----|----|---|---|----|----|----|----|---|----|----|----|----|---|-----|
| 1029 Schroeppe | 0 | 212 | 212 | 0 | 442 | 363 | 4.2 | 0 | 12 | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0  | 0  | 0 | 1  | 0  | 0  | 0  | 0 | 13  |
| 1030 Schroeppe | 0 | 49  | 49  | 0 | 103 | 88  | 4.2 | 0 | 0  | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0  | 0  | 0 | 3  | 0  | 0  | 0  | 0 | 5   |
| 1031 Schroeppe | 0 | 58  | 58  | 0 | 141 | 113 | 4.2 | 1 | 0  | 4 | 0  | 0  | 0 | 0 | 0  | 0  | 0  | 0  | 0 | 0  | 2  | 3  | 0  | 0 | 13  |
| 1032 Schroeppe | 0 | 278 | 278 | 0 | 697 | 530 | 4.2 | 0 | 2  | 0 | 2  | 0  | 0 | 2 | 0  | 2  | 0  | 12 | 0 | 9  | 5  | 9  | 0  | 0 | 43  |
| 1033 Schroeppe | 0 | 104 | 104 | 0 | 284 | 207 | 4.2 | 0 | 0  | 0 | 4  | 0  | 0 | 0 | 0  | 0  | 0  | 0  | 0 | 4  | 0  | 0  | 0  | 0 | 8   |
| 1034 Schroeppe | 0 | 178 | 178 | 0 | 402 | 323 | 4.2 | 0 | 0  | 0 | 0  | 0  | 0 | 2 | 0  | 0  | 0  | 2  | 0 | 0  | 0  | 7  | 0  | 0 | 11  |
| 1035 Schroeppe | 0 | 30  | 30  | 0 | 71  | 58  | 4.2 | 0 | 0  | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0  | 0  | 0 | 0  | 0  | 2  | 0  | 0 | 2   |
| 1036 Schroeppe | 0 | 64  | 64  | 0 | 153 | 121 | 4.2 | 0 | 0  | 0 | 1  | 0  | 0 | 0 | 0  | 0  | 0  | 0  | 0 | 1  | 0  | 0  | 0  | 0 | 2   |
| 1037 Schroeppe | 0 | 11  | 11  | 0 | 23  | 22  | 4.2 | 0 | 4  | 0 | 0  | 0  | 0 | 0 | 23 | 23 | 0  | 0  | 0 | 0  | 0  | 0  | 0  | 0 | 50  |
| 1038 Schroeppe | 0 | 22  | 22  | 0 | 41  | 35  | 4.2 | 0 | 0  | 0 | 3  | 0  | 0 | 0 | 0  | 0  | 0  | 0  | 0 | 0  | 3  | 0  | 39 | 0 | 51  |
| 1039 Schroeppe | 0 | 41  | 41  | 0 | 105 | 80  | 4.2 | 2 | 0  | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 12 | 0  | 0 | 0  | 0  | 0  | 0  | 2 | 16  |
| 1040 Hastings  | 0 | 73  | 73  | 0 | 171 | 121 | 4.2 | 0 | 2  | 0 | 3  | 0  | 2 | 0 | 0  | 2  | 0  | 0  | 0 | 4  | 0  | 3  | 0  | 0 | 16  |
| 1041 Hastings  | 0 | 41  | 41  | 0 | 100 | 72  | 4.2 | 0 | 0  | 0 | 0  | 7  | 0 | 0 | 0  | 0  | 1  | 17 | 0 | 9  | 0  | 0  | 0  | 4 | 38  |
| 1042 Hastings  | 0 | 196 | 196 | 0 | 459 | 337 | 4.2 | 0 | 1  | 0 | 15 | 0  | 0 | 0 | 0  | 0  | 0  | 11 | 0 | 2  | 26 | 5  | 2  | 0 | 69  |
| 1043 Hastings  | 0 | 57  | 57  | 0 | 157 | 107 | 4.2 | 0 | 1  | 0 | 14 | 0  | 0 | 0 | 0  | 0  | 0  | 0  | 0 | 0  | 0  | 0  | 0  | 7 | 22  |
| 1044 Hastings  | 0 | 32  | 32  | 0 | 73  | 52  | 4.2 | 0 | 0  | 0 | 0  | 0  | 0 | 0 | 0  | 7  | 0  | 0  | 0 | 0  | 0  | 0  | 0  | 0 | 7   |
| 1045 Hastings  | 0 | 12  | 12  | 0 | 25  | 21  | 4.2 | 0 | 0  | 0 | 0  | 0  | 0 | 2 | 0  | 0  | 0  | 0  | 0 | 0  | 0  | 0  | 0  | 0 | 2   |
| 1046 Hastings  | 0 | 126 | 126 | 0 | 359 | 237 | 4.2 | 0 | 0  | 1 | 3  | 0  | 0 | 0 | 0  | 0  | 0  | 1  | 0 | 2  | 1  | 1  | 0  | 0 | 9   |
| 1047 Hastings  | 0 | 37  | 37  | 0 | 90  | 67  | 4.2 | 0 | 1  | 0 | 1  | 0  | 0 | 0 | 0  | 0  | 0  | 0  | 0 | 0  | 4  | 3  | 0  | 0 | 9   |
| 1048 Hastings  | 0 | 19  | 19  | 0 | 56  | 40  | 4.2 | 2 | 0  | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0  | 0  | 0 | 0  | 0  | 0  | 0  | 0 | 2   |
| 1049 Hastings  | 0 | 28  | 28  | 0 | 63  | 53  | 4.2 | 0 | 0  | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0  | 2  | 0 | 0  | 4  | 2  | 4  | 0 | 12  |
| 1050 Hastings  | 0 | 35  | 35  | 0 | 90  | 70  | 4.2 | 0 | 2  | 0 | 1  | 0  | 0 | 0 | 0  | 0  | 0  | 0  | 0 | 0  | 0  | 0  | 0  | 0 | 3   |
| 1051 Hastings  | 0 | 75  | 75  | 0 | 218 | 159 | 4.2 | 0 | 0  | 0 | 16 | 0  | 0 | 0 | 0  | 0  | 0  | 0  | 0 | 2  | 0  | 12 | 0  | 0 | 30  |
| 1052 Hastings  | 0 | 114 | 114 | 0 | 309 | 236 | 4.2 | 0 | 2  | 0 | 3  | 2  | 0 | 1 | 0  | 0  | 0  | 1  | 0 | 5  | 1  | 1  | 0  | 0 | 16  |
| 1053 Hastings  | 0 | 43  | 43  | 0 | 97  | 83  | 4.2 | 0 | 0  | 0 | 2  | 0  | 0 | 0 | 0  | 0  | 0  | 0  | 0 | 3  | 0  | 2  | 2  | 0 | 9   |
| 1054 Hastings  | 0 | 102 | 102 | 0 | 307 | 222 | 4.2 | 0 | 2  | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0  | 7  | 0 | 16 | 2  | 0  | 0  | 0 | 27  |
| 1055 Hastings  | 0 | 84  | 84  | 0 | 189 | 165 | 4.2 | 0 | 0  | 0 | 0  | 7  | 0 | 2 | 8  | 0  | 1  | 0  | 0 | 1  | 0  | 2  | 0  | 3 | 24  |
| 1056 Hastings  | 0 | 113 | 113 | 0 | 260 | 220 | 4.2 | 1 | 1  | 0 | 8  | 0  | 0 | 0 | 0  | 0  | 0  | 0  | 0 | 0  | 1  | 0  | 0  | 0 | 14  |
| 1057 Hastings  | 0 | 83  | 83  | 0 | 204 | 164 | 4.2 | 0 | 0  | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0  | 0  | 0 | 0  | 0  | 19 | 0  | 0 | 19  |
| 1058 Hastings  | 0 | 111 | 111 | 0 | 279 | 221 | 4.2 | 0 | 0  | 0 | 0  | 0  | 2 | 0 | 0  | 0  | 0  | 0  | 0 | 2  | 0  | 0  | 3  | 0 | 7   |
| 1059 Hastings  | 0 | 43  | 43  | 0 | 123 | 95  | 4.2 | 0 | 1  | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0  | 0  | 0 | 0  | 0  | 0  | 0  | 0 | 1   |
| 1060 Hastings  | 0 | 118 | 118 | 0 | 334 | 250 | 4.2 | 0 | 0  | 0 | 8  | 0  | 0 | 0 | 0  | 2  | 0  | 0  | 0 | 3  | 0  | 2  | 2  | 0 | 22  |
| 1061 Hastings  | 0 | 68  | 68  | 0 | 202 | 144 | 4.2 | 0 | 0  | 0 | 5  | 11 | 0 | 0 | 0  | 0  | 1  | 0  | 0 | 0  | 8  | 5  | 0  | 0 | 35  |
| 1062 Hastings  | 0 | 12  | 12  | 0 | 19  | 21  | 4.2 | 0 | 0  | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0  | 2  | 0 | 0  | 0  | 0  | 0  | 0 | 2   |
| 1063 Hastings  | 0 | 27  | 27  | 0 | 75  | 55  | 4.2 | 0 | 0  | 0 | 13 | 5  | 0 | 0 | 0  | 0  | 2  | 0  | 0 | 0  | 0  | 0  | 0  | 0 | 20  |
| 1064 Hastings  | 0 | 25  | 25  | 0 | 68  | 51  | 4.2 | 0 | 0  | 0 | 2  | 0  | 0 | 0 | 0  | 0  | 0  | 0  | 0 | 0  | 0  | 0  | 0  | 0 | 2   |
| 1065 Hastings  | 0 | 61  | 61  | 0 | 174 | 128 | 4.2 | 0 | 0  | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0  | 0  | 0 | 1  | 0  | 0  | 0  | 0 | 1   |
| 1066 Hastings  | 0 | 30  | 30  | 0 | 82  | 63  | 4.2 | 0 | 0  | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0  | 0  | 0 | 0  | 0  | 0  | 0  | 0 | 0   |
| 1067 Hastings  | 0 | 95  | 95  | 0 | 242 | 195 | 4.2 | 0 | 1  | 0 | 1  | 0  | 0 | 0 | 0  | 5  | 0  | 0  | 0 | 3  | 5  | 0  | 0  | 0 | 15  |
| 1068 West Mon  | 0 | 26  | 26  | 0 | 70  | 55  | 4.2 | 0 | 0  | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0  | 0  | 0 | 2  | 0  | 0  | 0  | 0 | 2   |
| 1069 West Mon  | 0 | 36  | 36  | 0 | 81  | 66  | 4.2 | 0 | 0  | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0  | 0  | 0 | 0  | 0  | 0  | 0  | 0 | 0   |
| 1070 West Mon  | 0 | 35  | 35  | 0 | 94  | 72  | 4.2 | 0 | 0  | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0  | 0  | 0 | 1  | 0  | 0  | 0  | 0 | 1   |
| 1071 West Mon  | 0 | 20  | 20  | 0 | 38  | 36  | 4.2 | 0 | 0  | 0 | 0  | 0  | 0 | 0 | 0  | 3  | 0  | 8  | 0 | 0  | 0  | 0  | 0  | 0 | 11  |
| 1072 West Mon  | 0 | 63  | 63  | 0 | 129 | 115 | 4.2 | 0 | 0  | 0 | 2  | 0  | 0 | 0 | 0  | 0  | 0  | 0  | 0 | 1  | 0  | 0  | 0  | 0 | 3   |
| 1073 West Mon  | 0 | 26  | 26  | 0 | 62  | 56  | 4.2 | 0 | 0  | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0  | 0  | 0 | 0  | 0  | 0  | 0  | 0 | 0   |
| 1074 West Mon  | 0 | 100 | 100 | 0 | 287 | 207 | 4.2 | 0 | 0  | 0 | 2  | 0  | 0 | 0 | 0  | 2  | 0  | 0  | 0 | 0  | 2  | 3  | 0  | 0 | 9   |
| 1075 West Mon  | 0 | 135 | 135 | 0 | 337 | 260 | 4.2 | 0 | 0  | 0 | 5  | 0  | 0 | 0 | 0  | 0  | 0  | 0  | 0 | 1  | 1  | 0  | 0  | 0 | 7   |
| 1076 West Mon  | 0 | 39  | 39  | 0 | 83  | 69  | 4.2 | 0 | 0  | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0  | 0  | 0 | 2  | 0  | 0  | 0  | 0 | 2   |
| 1077 West Mon  | 0 | 54  | 54  | 0 | 146 | 109 | 4.2 | 0 | 0  | 0 | 17 | 0  | 0 | 0 | 0  | 0  | 0  | 0  | 0 | 7  | 0  | 0  | 0  | 0 | 24  |
| 1078 West Mon  | 0 | 80  | 80  | 0 | 180 | 152 | 4.2 | 0 | 1  | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0  | 5  | 0 | 3  | 0  | 0  | 0  | 0 | 9   |
| 1079 West Mon  | 0 | 113 | 113 | 0 | 283 | 220 | 4.2 | 0 | 0  | 0 | 2  | 0  | 0 | 0 | 0  | 0  | 0  | 0  | 0 | 6  | 0  | 0  | 0  | 0 | 8   |
| 1080 West Mon  | 0 | 52  | 52  | 0 | 133 | 101 | 4.2 | 0 | 0  | 0 | 0  | 0  | 0 | 0 | 15 | 0  | 0  | 0  | 0 | 10 | 3  | 0  | 0  | 0 | 28  |
| 1081 West Mon  | 0 | 85  | 85  | 0 | 196 | 167 | 4.2 | 0 | 1  | 0 | 7  | 0  | 0 | 0 | 0  | 0  | 0  | 13 | 0 | 0  | 7  | 7  | 0  | 0 | 35  |
| 1082 West Mon  | 0 | 70  | 70  | 0 | 180 | 142 | 4.2 | 0 | 3  | 0 | 2  | 0  | 0 | 3 | 0  | 0  | 0  | 0  | 0 | 0  | 0  | 2  | 0  | 0 | 10  |
| 1083 West Mon  | 0 | 73  | 73  | 0 | 197 | 144 | 4.2 | 5 | 5  | 0 | 20 | 0  | 0 | 0 | 0  | 0  | 0  | 0  | 0 | 28 | 0  | 0  | 20 | 0 | 78  |
| 1084 West Mon  | 0 | 63  | 63  | 0 | 155 | 125 | 4.2 | 0 | 0  | 0 | 0  | 0  | 5 | 0 | 0  | 1  | 0  | 0  | 0 | 91 | 0  | 5  | 9  | 0 | 111 |
| 1085 Hastings  | 0 | 39  | 39  | 0 | 101 | 79  | 4.2 | 2 | 0  | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0  | 0  | 0 | 0  | 2  | 0  | 3  | 0 | 7   |
| 1086 West Mon  | 0 | 51  | 51  | 0 | 123 | 98  | 4.2 | 0 | 3  | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0  | 22 | 0 | 13 | 0  | 0  | 0  | 0 | 38  |
| 1087 West Mon  | 0 | 109 | 109 | 0 | 248 | 208 | 4.2 | 0 | 0  | 0 | 4  | 0  | 0 | 1 | 0  | 0  | 0  | 0  | 1 | 1  | 20 | 0  | 3  | 0 | 30  |
| 1088 West Mon  | 0 | 87  | 87  | 0 | 200 | 165 | 4.2 | 0 | 2  | 0 | 7  | 0  | 0 | 0 | 0  | 1  | 0  | 14 | 0 | 1  | 4  | 2  | 5  | 0 | 36  |
| 1089 West Mon  | 0 | 33  | 33  | 0 | 74  | 62  | 4.2 | 0 | 0  | 0 | 0  | 0  | 0 | 0 | 0  | 0  | 0  | 0  | 0 | 0  | 0  | 0  | 0  | 0 | 0   |



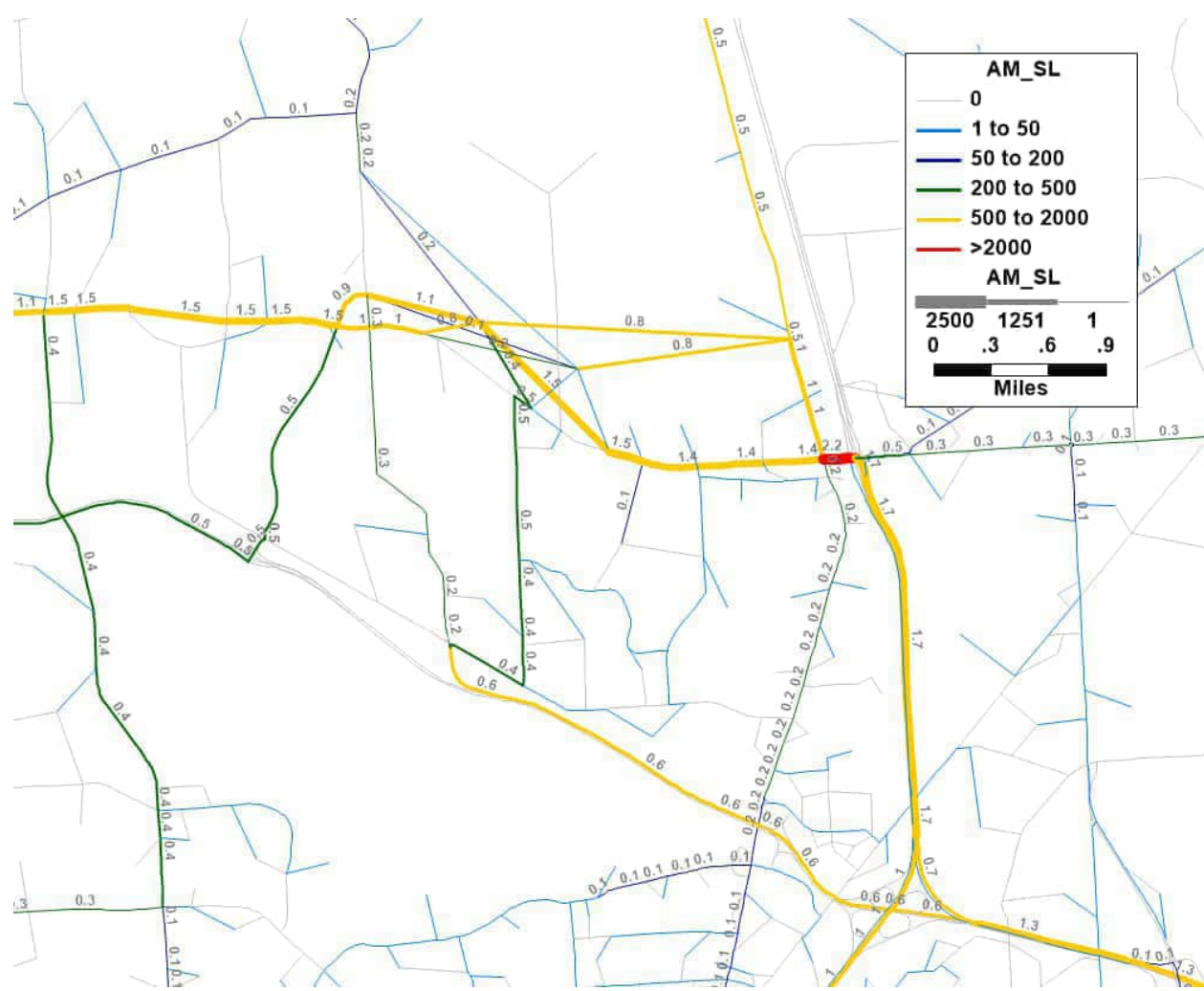
|                |   |      |    |      |      |      |     |   |     |     |    |      |      |    |      |       |   |     |   |   |      |     |    |      |    |       |      |
|----------------|---|------|----|------|------|------|-----|---|-----|-----|----|------|------|----|------|-------|---|-----|---|---|------|-----|----|------|----|-------|------|
| 1090 Schroeppe | 0 | 6    | 6  | 0    | 21   | 14   | 4.2 | 0 | 0   | 0   | 0  | 0    | 0    | 0  | 0    | 15    | 0 | 0   | 0 | 0 | 0    | 0   | 0  | 0    | 0  | 15    |      |
| 1091 Schroeppe | 0 | 27   | 27 | 0    | 74   | 57   | 4.2 | 0 | 0   | 0   | 0  | 0    | 0    | 0  | 0    | 0     | 0 | 20  | 0 | 0 | 7    | 4   | 0  | 0    | 0  | 31    |      |
| 1092 Schroeppe | 0 | 18   | 18 | 0    | 42   | 33   | 4.2 | 0 | 8   | 0   | 0  | 10   | 0    | 0  | 0    | 0     | 2 | 0   | 0 | 0 | 0    | 0   | 1  | 0    | 3  | 24    |      |
| 1093 Schroeppe | 0 | 20   | 20 | 0    | 52   | 38   | 4.2 | 4 | 0   | 0   | 0  | 0    | 0    | 0  | 0    | 0     | 0 | 0   | 0 | 0 | 0    | 0   | 0  | 0    | 0  | 4     |      |
| 1094 Schroeppe | 0 | 7    | 7  | 0    | 20   | 16   | 4.2 | 0 | 0   | 0   | 0  | 0    | 0    | 0  | 0    | 0     | 0 | 0   | 0 | 0 | 0    | 0   | 0  | 0    | 0  | 0     |      |
| 1095 Schroeppe | 0 | 76   | 76 | 0    | 191  | 144  | 4.2 | 1 | 1   | 0   | 3  | 0    | 0    | 0  | 1    | 0     | 0 | 1   | 0 | 0 | 0    | 0   | 0  | 0    | 0  | 7     |      |
| 1096 West Mon  | 0 | 18   | 18 | 0    | 36   | 30   | 4.2 | 0 | 0   | 0   | 0  | 0    | 0    | 0  | 0    | 0     | 0 | 0   | 0 | 0 | 0    | 7   | 9  | 0    | 0  | 16    |      |
| 1097 West Mon  | 0 | 38   | 38 | 0    | 104  | 75   | 4.2 | 0 | 4   | 0   | 0  | 0    | 0    | 0  | 0    | 0     | 0 | 0   | 0 | 0 | 0    | 0   | 0  | 0    | 0  | 4     |      |
| 1098 Hastings  | 0 | 18   | 18 | 0    | 53   | 39   | 4.2 | 0 | 0   | 0   | 0  | 0    | 0    | 0  | 0    | 0     | 0 | 0   | 0 | 0 | 0    | 0   | 0  | 0    | 3  | 3     |      |
| 1099 Hastings  | 0 | 99   | 99 | 0    | 279  | 211  | 4.2 | 0 | 3   | 0   | 0  | 0    | 0    | 0  | 0    | 0     | 0 | 0   | 0 | 0 | 4    | 3   | 1  | 0    | 0  | 11    |      |
| 1100 Sullivan  | 0 | 25   | 25 | 0    | 55   | 53   | 4.2 | 0 | 0   | 0   | 0  | 0    | 0    | 0  | 0    | 0     | 0 | 0   | 0 | 0 | 0    | 0   | 0  | 0    | 0  | 0     |      |
| 1101 Sullivan  | 0 | 22   | 22 | 0    | 60   | 43   | 4.2 | 0 | 0   | 0   | 0  | 0    | 0    | 0  | 0    | 0     | 0 | 0   | 0 | 0 | 0    | 0   | 0  | 0    | 0  | 0     |      |
| 8001 Geddes    | 0 | 0    | 0  | 0    | 0    | 0    | 0   | 0 | 0   | 0   | 0  | 0    | 0    | 0  | 199  | 0     | 0 | 0   | 0 | 0 | 0    | 0   | 40 | 0    | 0  | 239   |      |
| 8002 Syracuse  | 0 | 0    | 0  | 0    | 0    | 0    | 0   | 0 | 439 | 128 | 12 | 1132 | 0    | 50 | 0    | 14    | 0 | 129 | 0 | 0 | 3701 | 102 | 21 | 225  | 0  | 40    | 5993 |
| 8003 Onondaga  | 0 | 984  | 0  | 984  | 571  | 571  | 0   | 0 | 0   | 0   | 0  | 0    | 1842 | 0  | 0    | 0     | 0 | 0   | 0 | 0 | 0    | 0   | 0  | 0    | 0  | 1842  |      |
| 8004 Onondaga  | 0 | 0    | 0  | 0    | 0    | 0    | 0   | 0 | 14  | 0   | 0  | 0    | 0    | 0  | 27   | 1993  | 0 | 0   | 0 | 0 | 3    | 3   | 0  | 0    | 0  | 2040  |      |
| 8005 Syracuse  | 0 | 20   | 0  | 20   | 0    | 0    | 3   | 0 | 0   | 0   | 0  | 0    | 0    | 0  | 0    | 1272  | 0 | 0   | 0 | 0 | 0    | 0   | 0  | 0    | 0  | 1272  |      |
| 8006 Syracuse  | 0 | 2596 | 0  | 2596 | 2507 | 2507 | 3   | 0 | 18  | 0   | 0  | 0    | 542  | 0  | 0    | 0     | 0 | 51  | 0 | 0 | 1    | 8   | 18 | 0    | 0  | 638   |      |
| 8007 Syracuse  | 0 | 0    | 0  | 0    | 0    | 0    | 20  | 0 | 0   | 0   | 0  | 0    | 0    | 0  | 0    | 0     | 0 | 0   | 0 | 0 | 108  | 0   | 0  | 0    | 0  | 108   |      |
| 8008 Syracuse  | 0 | 0    | 0  | 0    | 0    | 0    | 20  | 0 | 0   | 0   | 0  | 0    | 0    | 0  | 2233 | 0     | 0 | 0   | 0 | 0 | 0    | 20  | 0  | 0    | 0  | 2253  |      |
| 8009 Syracuse  | 0 | 0    | 0  | 0    | 0    | 0    | 20  | 0 | 0   | 0   | 0  | 0    | 0    | 0  | 0    | 0     | 0 | 0   | 0 | 0 | 1043 | 0   | 0  | 0    | 0  | 1043  |      |
| 8010 Dewitt    | 0 | 1286 | 5  | 1281 | 1284 | 1284 | 2.5 | 0 | 0   | 0   | 0  | 105  | 676  | 0  | 0    | 0     | 0 | 0   | 0 | 0 | 0    | 0   | 0  | 0    | 0  | 781   |      |
| 8011 Syracuse  | 0 | 74   | 0  | 74   | 689  | 689  | 15  | 0 | 70  | 78  | 0  | 55   | 0    | 14 | 50   | 10953 | 0 | 0   | 0 | 5 | 61   | 51  | 0  | 0    | 0  | 11337 |      |
| 8012 Syracuse  | 0 | 3053 | 0  | 3053 | 2766 | 2766 | 15  | 1 | 432 | 0   | 4  | 0    | 4406 | 8  | 13   | 3     | 0 | 23  | 0 | 0 | 4    | 26  | 12 | 0    | 0  | 4932  |      |
| 8013 Syracuse  | 0 | 0    | 0  | 0    | 0    | 0    | 15  | 0 | 4   | 1   | 2  | 3    | 5    | 3  | 2    | 5     | 0 | 4   | 0 | 0 | 5    | 3   | 1  | 2    | 0  | 2     | 42   |
| 8014 Syracuse  | 0 | 0    | 0  | 0    | 0    | 0    | 15  | 0 | 27  | 0   | 0  | 0    | 0    | 6  | 0    | 4041  | 0 | 0   | 0 | 0 | 16   | 0   | 0  | 0    | 12 | 4102  |      |
| 8015 Syracuse  | 0 | 0    | 0  | 0    | 0    | 0    | 0   | 0 | 0   | 0   | 0  | 0    | 0    | 0  | 0    | 0     | 0 | 0   | 0 | 0 | 0    | 59  | 0  | 0    | 0  | 59    |      |
| 8016 Dewitt    | 0 | 0    | 0  | 0    | 0    | 0    | 4   | 0 | 103 | 0   | 0  | 0    | 0    | 0  | 0    | 0     | 0 | 0   | 0 | 0 | 0    | 77  | 0  | 1635 | 0  | 0     | 1815 |



Below is a map of the AM Select Link results for Scenario A “v4\_SPUI\_LowCap”. Numbers written on the map are 1000s of vehicles.









# MEMO

**TO:** Jason Deshaies  
**FROM:** Stephen Tuttle; Colin Smith  
**DATE:** January 23, 2024  
**SUBJECT:** SMTC Travel Demand Modeling for Micron Scenario C

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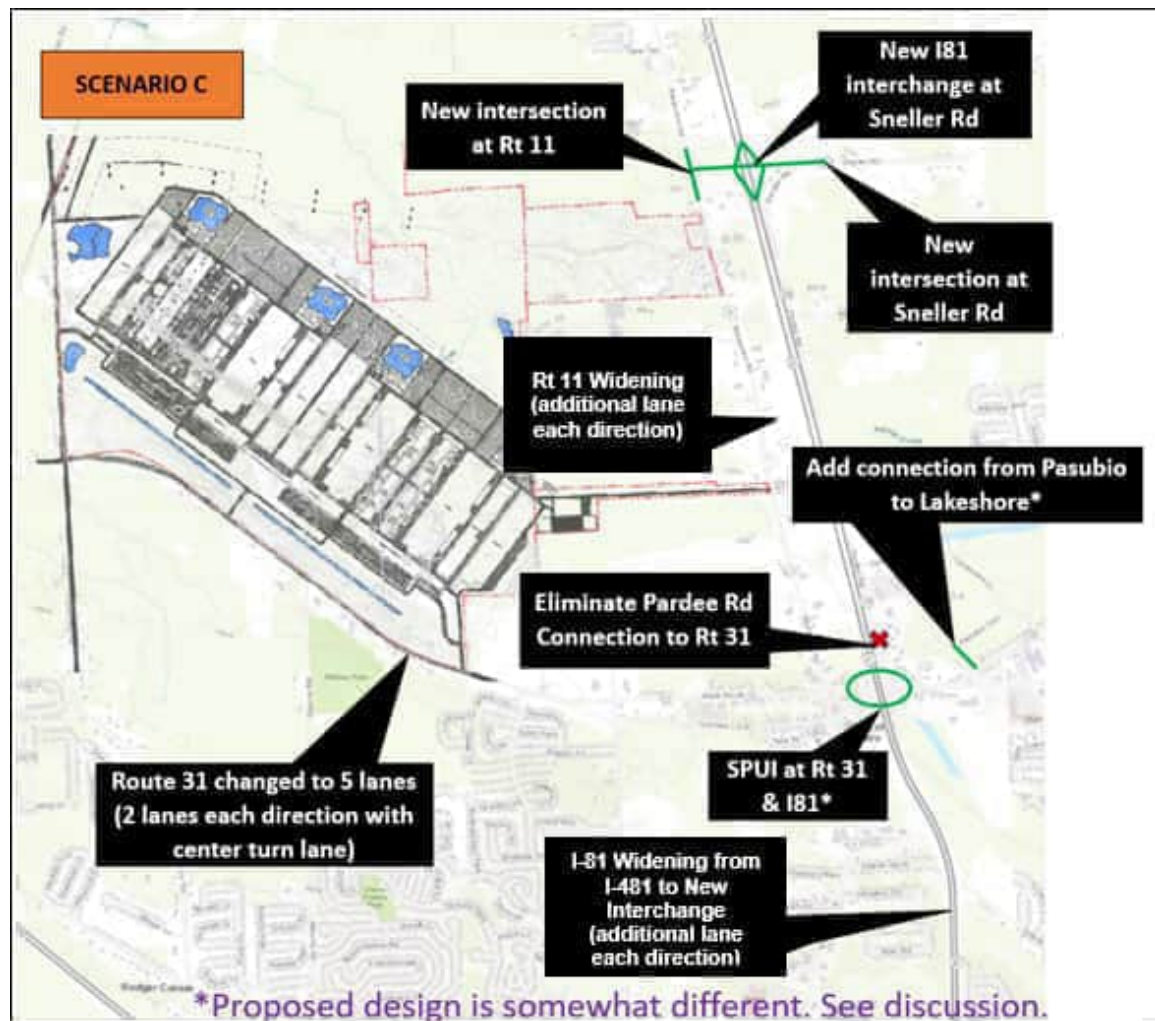
On behalf of the Syracuse Metropolitan Transportation Council (SMTC), RSG has conducted a series of scenario model runs, using the SMTC Version 6.0 travel model, to assist ongoing analysis for the proposed Micron facility in Clay, NY.

The latest runs examine network “Scenario C”, a set of roadway projects proposed to mitigate traffic linked to the Micron facility. Figure 1 illustrates the significant roadway projects included in Scenario C. These roadway projects are in addition to the roadway projects included in the 2040 No Build scenario (as discussed in the December 10, 2023, memorandum for Scenario A).

Scenario C includes a new interchange at I-81 and Sneller Road, as well as an extra lane in each direction along Route 11. The actual Scenario C proposal also includes a diverging diamond interchange (DDI) at I-81 and Route 31; however, the model runs for Scenario C include a single-point urban interchange (SPUI) at the I-81 and Route 31 interchange (the same as in Scenario A) since it was felt that coding the DDI into the SMTC regional model would not result in an important difference, relative to the SPUI. The model runs for Scenario C also include a connection from Pasubio Terrace to Lakeshore Road that is not proposed. This connection provides a link between Lakeshore and Pardee that otherwise would be provided by Carmenica Drive, which is not included in the SMTC model. A signalized intersection was coded for the Micron driveway to US-11, but not for the other access points, which is analogous to the coding for Scenario A.



FIGURE 1: SCENARIO C NETWORK PROJECTS



Two versions of Scenario C were created:

1. “SC1” – This scenario is analogous to the “CCs Equal” version of Scenario A, where the all the Micron centroid connectors have the same travel time.
2. “SC2” – This scenario includes the changes from the “SC1” version and assumes the node capacity at the SR-31 SPUI decreases from 6600 to 4400 and the (midpoint) link capacity of the I-81 NB to SR-31 WB ramp decreases from 1500 to 400 vehicles per lane. (Note: the SMTc model employs static assignment where volume can exceed capacity. If volume exceeds capacity, the travel time keeps increasing and the route becomes less and less attractive.)

## Summary of Results

Micron select link analyses were performed to help examine the results. Figure 2 and Figure 3 show the select link results for SC1 and Figure 4 and Figure 5 show the results for SC2. Key observations include:





- Demand from the north uses the new interchange at I-81 and Sneller.
- Demand from the south heavily uses the I-81 and SR-31 interchange. In SC2, which includes reduced capacity at the SPUI, some vehicles are diverted towards Caughenoy, Stearns, and US-11.
- The centroid connector along US-11 (connector 6) is significantly used by demand from the south and north.
- Demand from the west heavily uses SR-31.

**FIGURE 2: SC1 AM SELECT LINK**





FIGURE 3: SC1 AM SELECT LINK ZOOMED

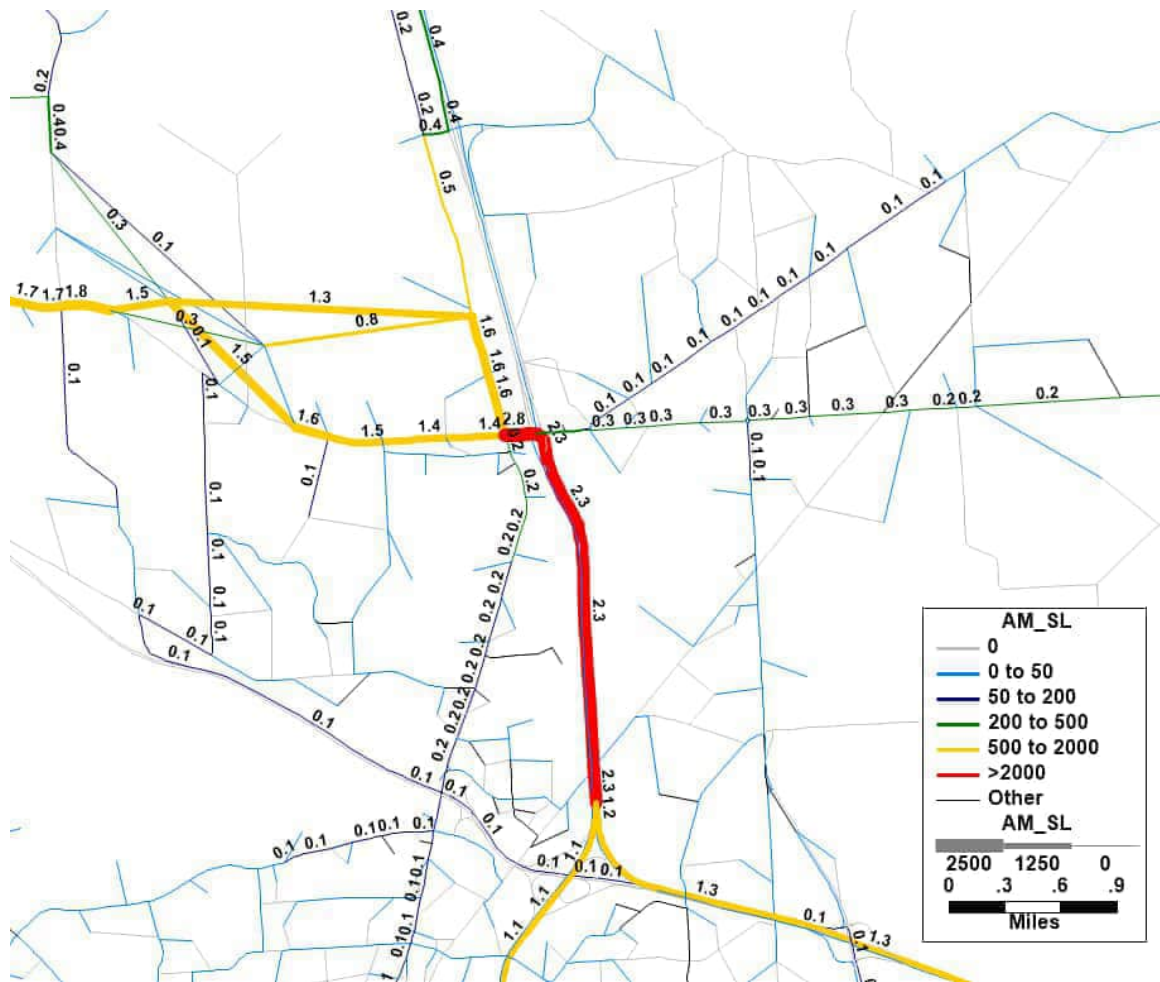






FIGURE 4: SC2 AM SELECT LINK

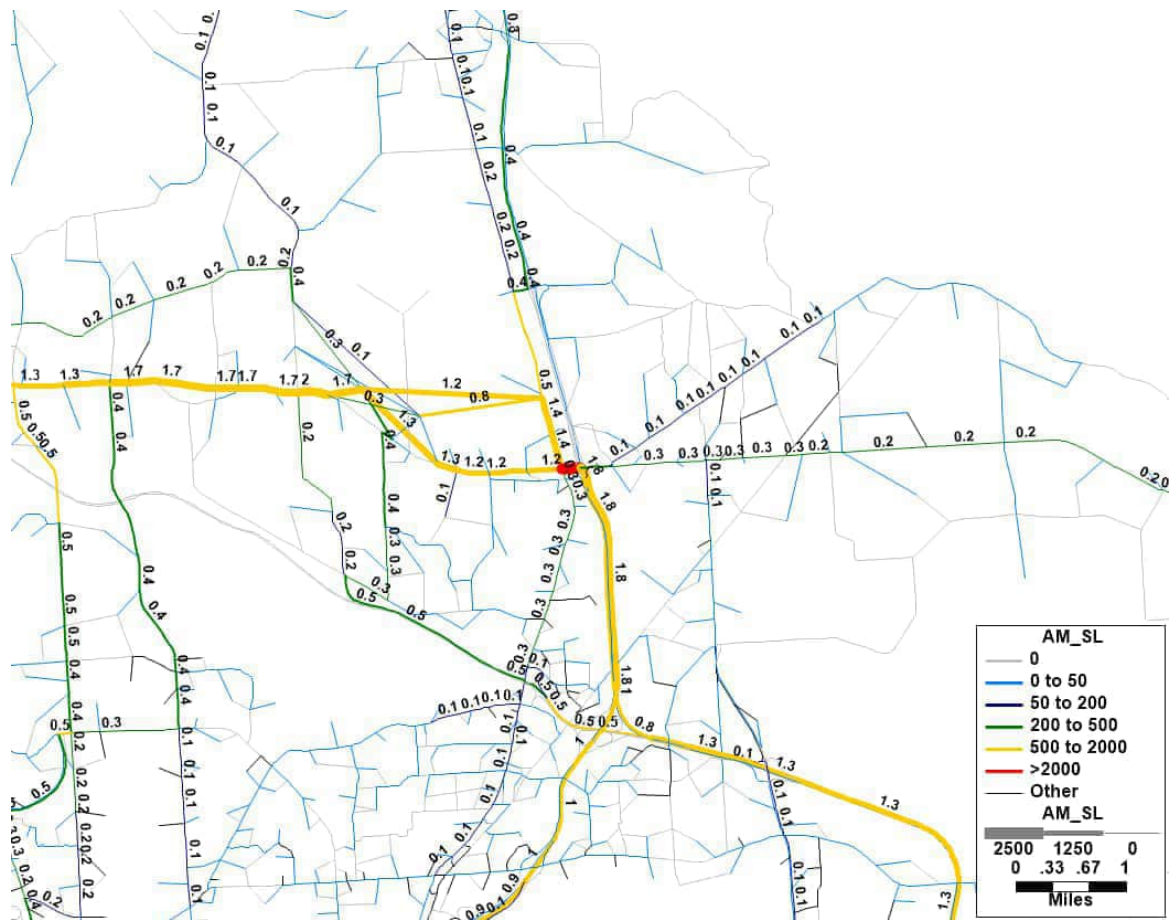




FIGURE 5: SC2 AM SELECT LINK ZOOMED



## Analysis Outputs

The following output files are provided for the 2040 scenario runs:

- AM peak hour assigned link flows (*flowTable7.bin*)
- PM peak hour assigned link flows (*flowTable17.bin*)
- Loaded Model Network with select link flows (*NetworkOut.dbd*)
- Select Link Matrix

An assignment matrix ("hourAutoTrips.mtx") is also included for the "SC1" scenario. This assignment matrix should be nearly identical to the ones used in the other scenarios, and it can be used for general analysis of Scenario C.



# MEMO

**TO:** Jason Deshaies  
**FROM:** Stephen Tuttle; Colin Smith  
**DATE:** January 3, 2024  
**SUBJECT:** SMTC Travel Demand Modeling for Micron Scenario A

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On behalf of the Syracuse Metropolitan Transportation Council (SMTC), RSG has conducted a series of scenario model runs, using the SMTC Version 6.0 travel model, to assist ongoing analysis for the proposed Micron facility in Clay, NY.

The latest model runs examine changes to the original Scenario A runs. Three scenarios were created:

1. “481Conn 50MPH” – This scenario includes a correction to the free flow speed of the proposed SR-481 to SR-31 connector. The speed between the roundabout and the Micron connector (access point 2) is now coded as 50 MPH.
2. “CCs Equal” – This scenario includes the changes in “481Conn 50MPH” and assumes the Micron centroid connectors (CCs) have equal travel times. This means vehicles will enter the Micron facility as quickly as possible, and will not consider the length of centroid connectors. Previously, vehicles had to drive along the centroid connectors at 15MPH to reach designated parking lots.
3. “SPUI LowCap” – This scenario includes the changes from the “CCs Equal” and “481Conn 50MPH” scenarios and assumes the node capacity at the SR-31 SPUI decreases from 6600 to 4400 and the (midpoint) link capacity of the I-81 NB to SR-31 WB ramp decreases from 1500 to 400 vehicles per lane. (Note: the SMTC model employs static assignment where volume can exceed capacity. If volume exceeds capacity, the travel time keeps increasing and the route becomes less and less attractive.)

## Summary of Results

AM flows were tabulated for a series of analysis links. The analysis links include all of the centroid connectors for the west and east zones as well as key routes that may be used for AM northbound travel to the Micron facility.



**FIGURE 1: ANALYSIS LINKS**

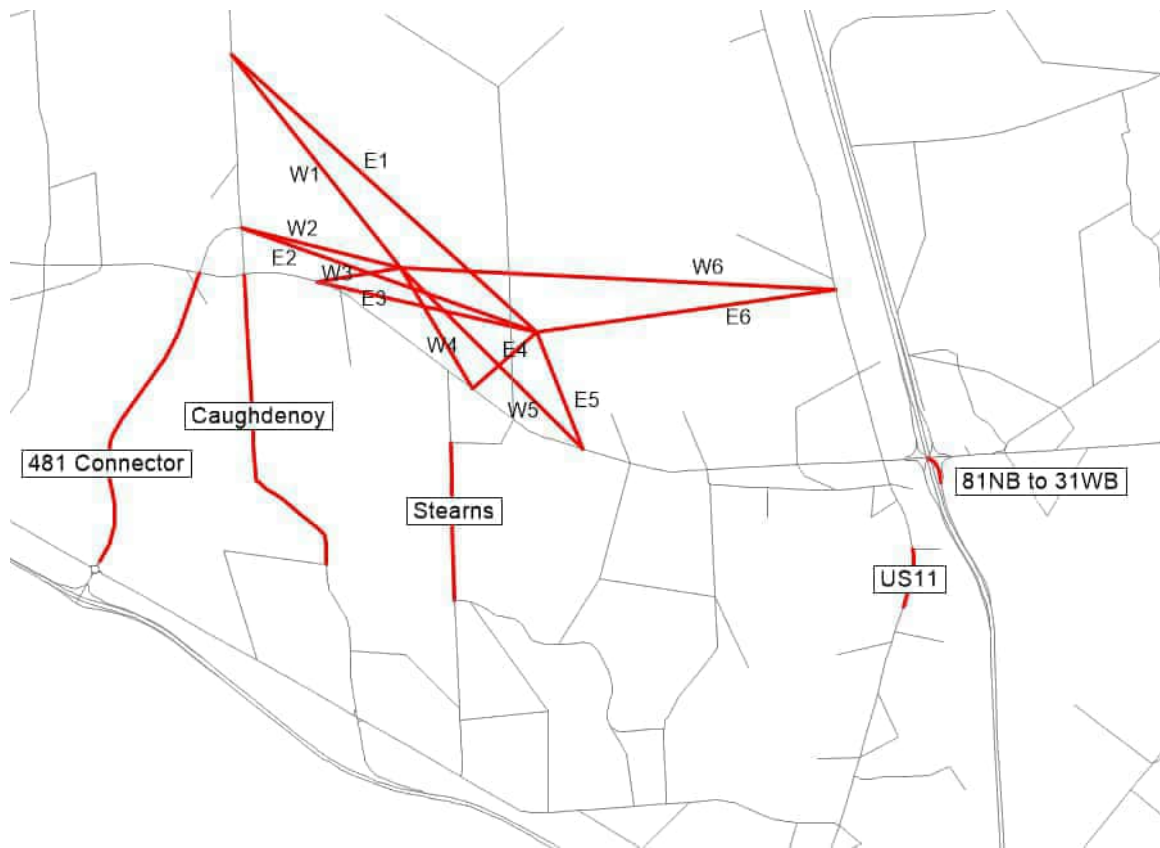


Figure 2 shows AM flows along the analysis links for the three scenarios and the original “SA15” scenario, which is the baseline scenario. Key observations include:

- Caughdenoy, Stearns, and US-11 are all used as access routes. In other words, not all the traffic diverted away from the I-81/SR-31 interchange goes to the new 481 connector.
- The speed increase to 50 MPH on the 481 connector induces some traffic, but the overall flow on this link is similar to before.
- The equal travel time assumption for Micron centroid connectors makes access points 3 and 4 much less attractive and access points 1, 2, 5, and 6 more attractive.
- The SPUI capacity decrease resulted in about 400 vehicles being diverted away from the I-81/SR-31 interchange. The SPUI LowCap scenario added about a minute of new delay at the SPUI (in addition to diverting 400 vehicles).





**FIGURE 2: AM FLOWS ON ANALYSIS LINKS**

| Link          | SA15  | 481Conn 50mph | CCs Equal | SPUI LowCap |
|---------------|-------|---------------|-----------|-------------|
| 481 Connector | 559   | 744           | 592       | 585         |
| Caughdenoy    | 761   | 734           | 354       | 457         |
| Stearns       | 606   | 562           | 327       | 512         |
| US11          | 993   | 963           | 1,060     | 1,083       |
| 81NB to 31WB  | 1,619 | 1,580         | 2,313     | 1,914       |
| W1            | 0     | 0             | 186       | 198         |
| W2            | 166   | 232           | 966       | 1,077       |
| W3            | 4,675 | 4,609         | 781       | 813         |
| W4            | 0     | 0             | 260       | 449         |
| W5            | 0     | 0             | 1,796     | 1,515       |
| W6            | 9     | 9             | 862       | 798         |
| E1            | 0     | 0             | 33        | 33          |
| E2            | 28    | 109           | 90        | 97          |
| E3            | 2     | 2             | 236       | 230         |
| E4            | 1,119 | 1,039         | 11        | 7           |
| E5            | 0     | 0             | 16        | 20          |
| E6            | 25    | 24            | 788       | 788         |

## Analysis Outputs

The following output files are provided for the 2040 scenario runs:

- AM peak hour assigned link flows (*flowTable7.bin*)
- PM peak hour assigned link flows (*flowTable17.bin*)
- Loaded Model Network (*NetworkOut.dbd*)

An assignment matrix ("hourAutoTrips.mtx") is also included for the "481Conn 50MPH" scenario. This assignment matrix should be nearly identical to the ones used in the other scenarios, and it can be used for general analysis of Scenario A.



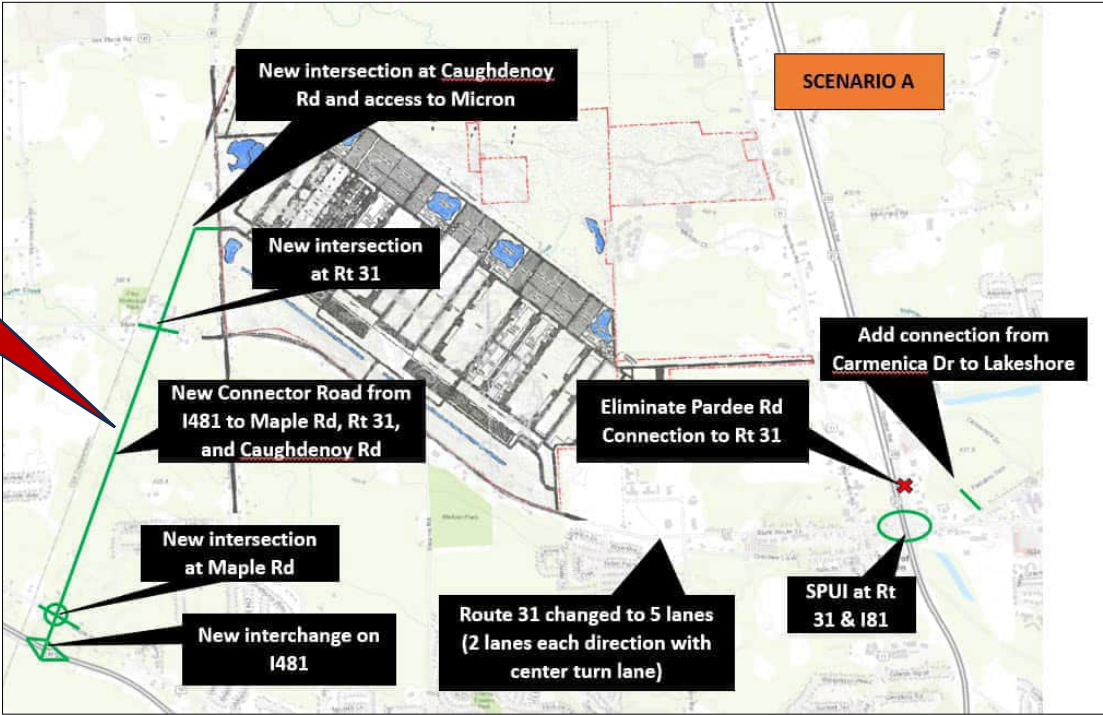
SMTC Travel Demand Model Results: **Scenario A v2** (15 MPH Micron TAZ Centroid Connectors and Increased New Road Free Flow Speed to 50 MPH) – **AM PEAK HOUR CHANGE IN VOLUMES**

The graphic to the right shows the general assumptions for **Scenario A v2** →

Notes:

- All 2040 scenarios include projected future land use growth (including Micron)
- No Build in this document refers to no Micron related road network changes
- **RED** callouts note the revisions made to Scenario A

New road free flow speed increased to 50 MPH



The graphic to the right is an example of what is included in this document →

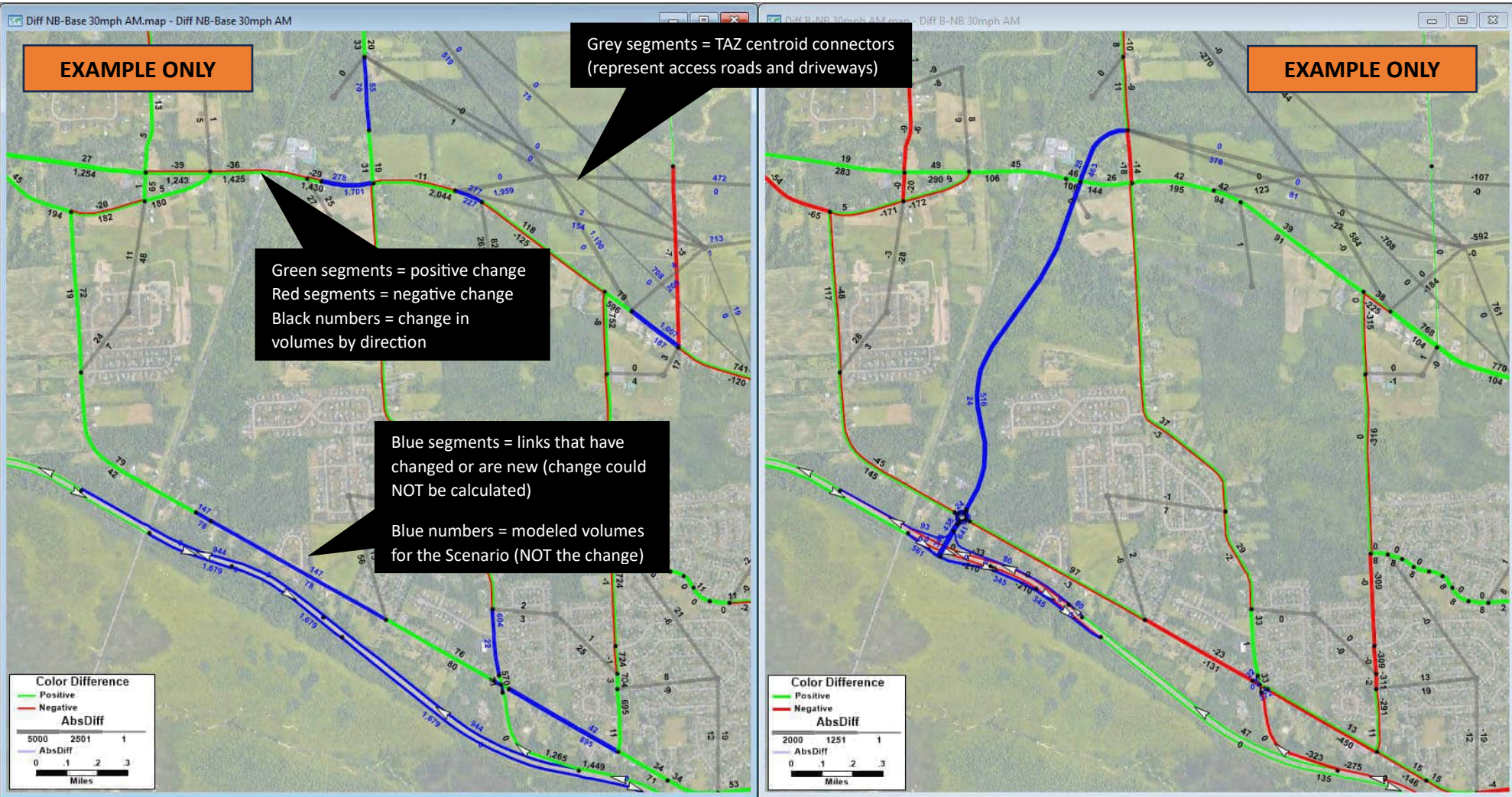
The map on the left displays the change in **AM** volumes between the 2020 existing conditions base model to the 2040 No Build (**2040 NB AM Volumes less 2020 AM volumes**). No Build in this case refers to no network improvements, the build future land use conditions are included (including Micron).

The map on the right displays the change in **AM** volumes between the 2040 No Build to the 2040 Scenario "X" Build (**2040 Scenario "X" Build AM Volumes less 2040 NB AM volumes**).

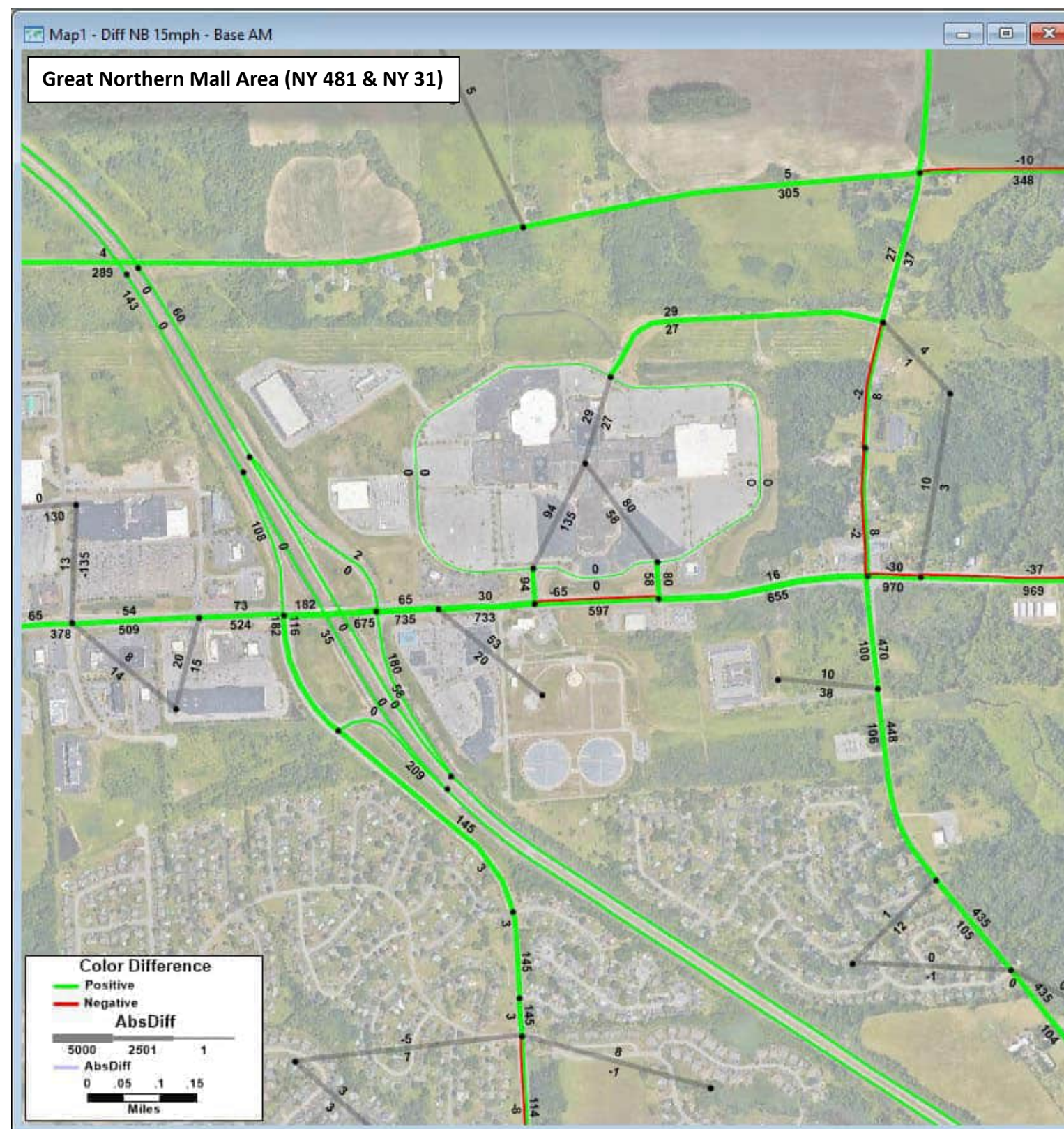
MAP NOTES:

- **Green** segments = positive change between identified scenarios
- **Red** segments = negative change between identified scenarios
- **Black numbers** = change in volumes by direction
- **Blue** segments = links that have changed or are new for that scenario therefore a change can **NOT** be calculated
- **Blue numbers** = modeled volume by direction on that segment for that scenario (change could NOT be calculated for that link)
- **Gray** segments = TAZ centroid connectors (general representation of access roads and driveways)

To get total future volume on a segment add up the numbers from both maps and then add that to existing traffic counts.

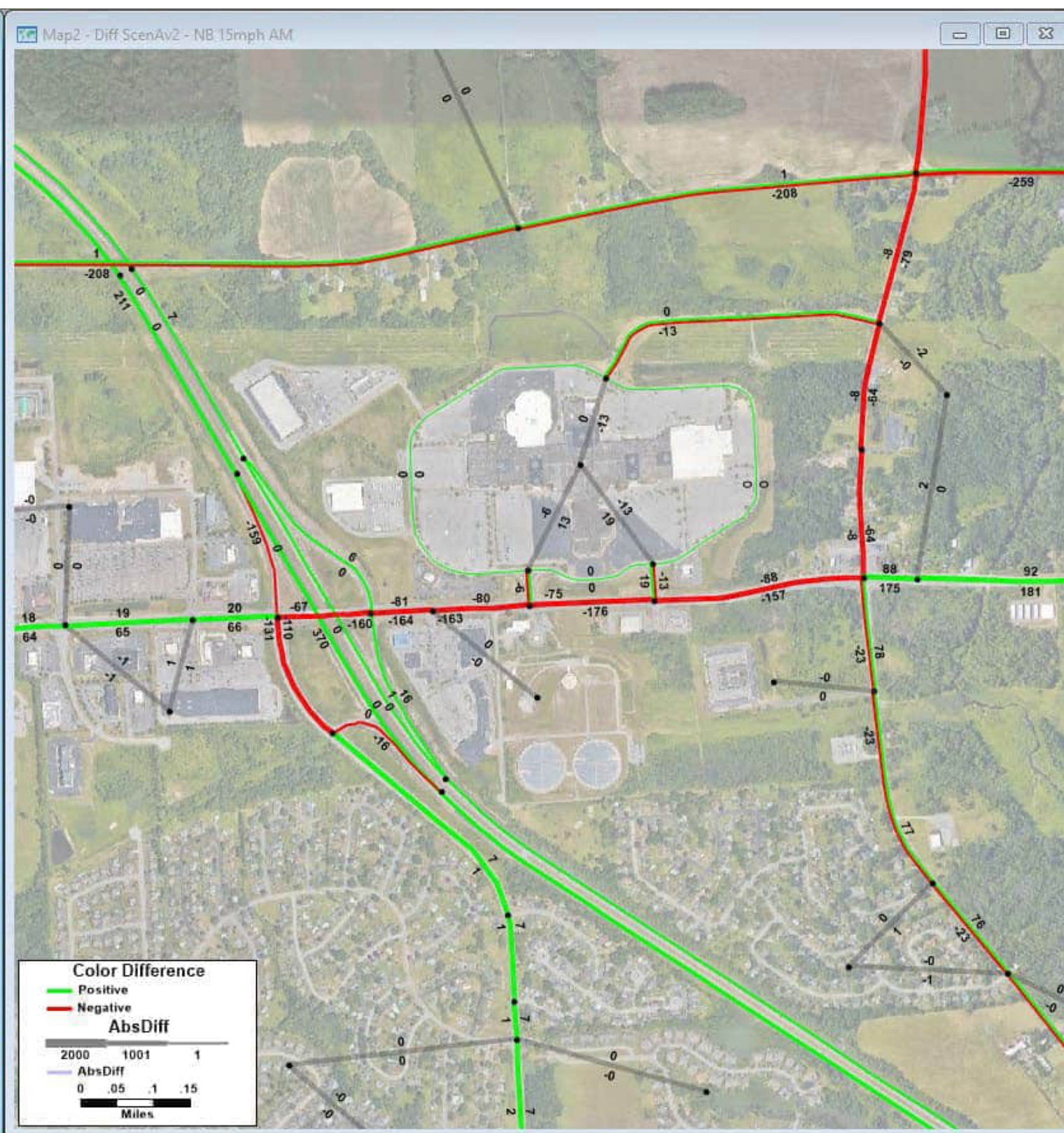






**2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes**

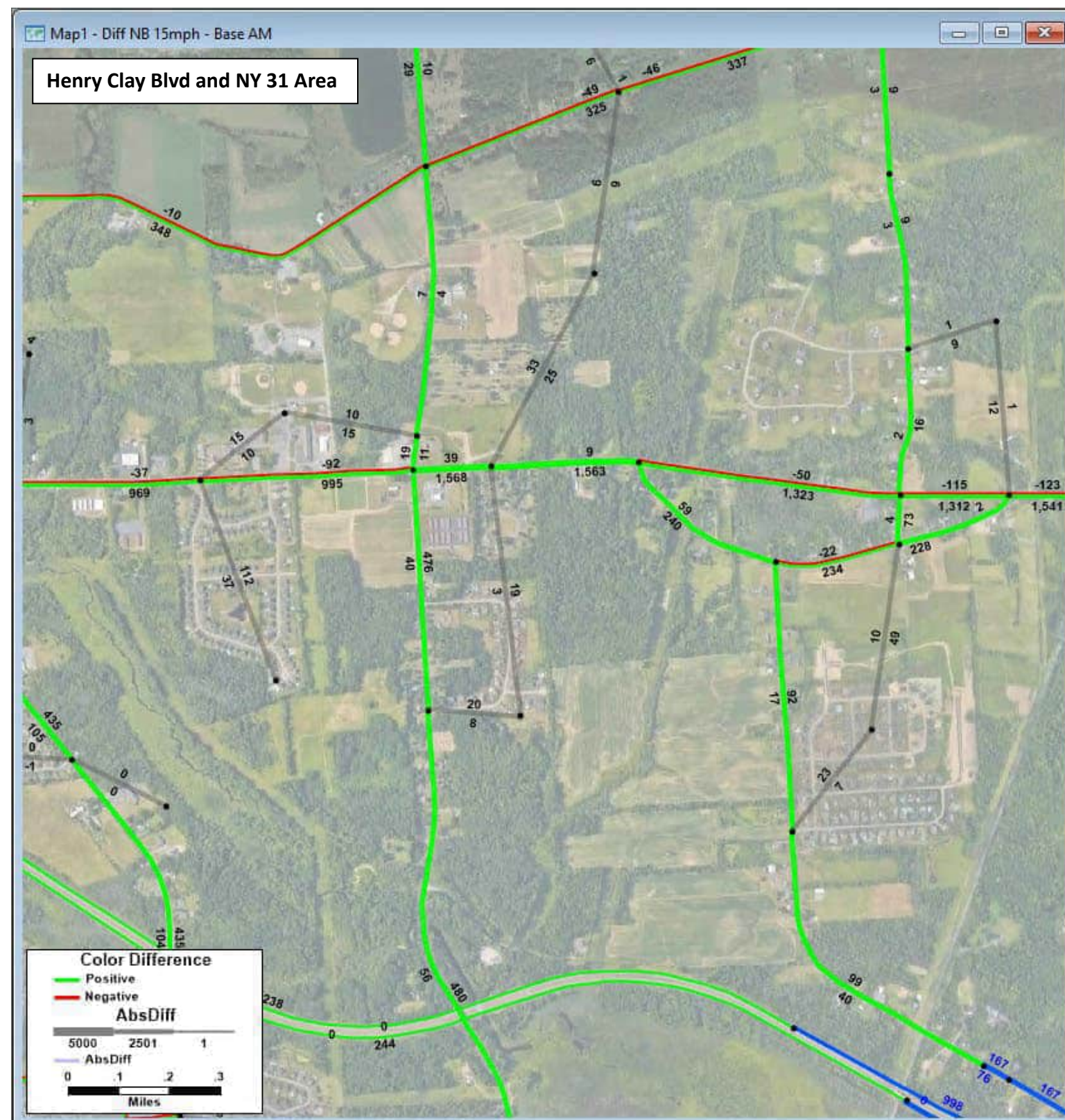
No Build: All future land use and anticipated transportation projects but no Scenario A network changes  
Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



**2040 Scenario A v2 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes**

Build: All future land use and anticipated transportation projects with Scenario A network changes  
Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

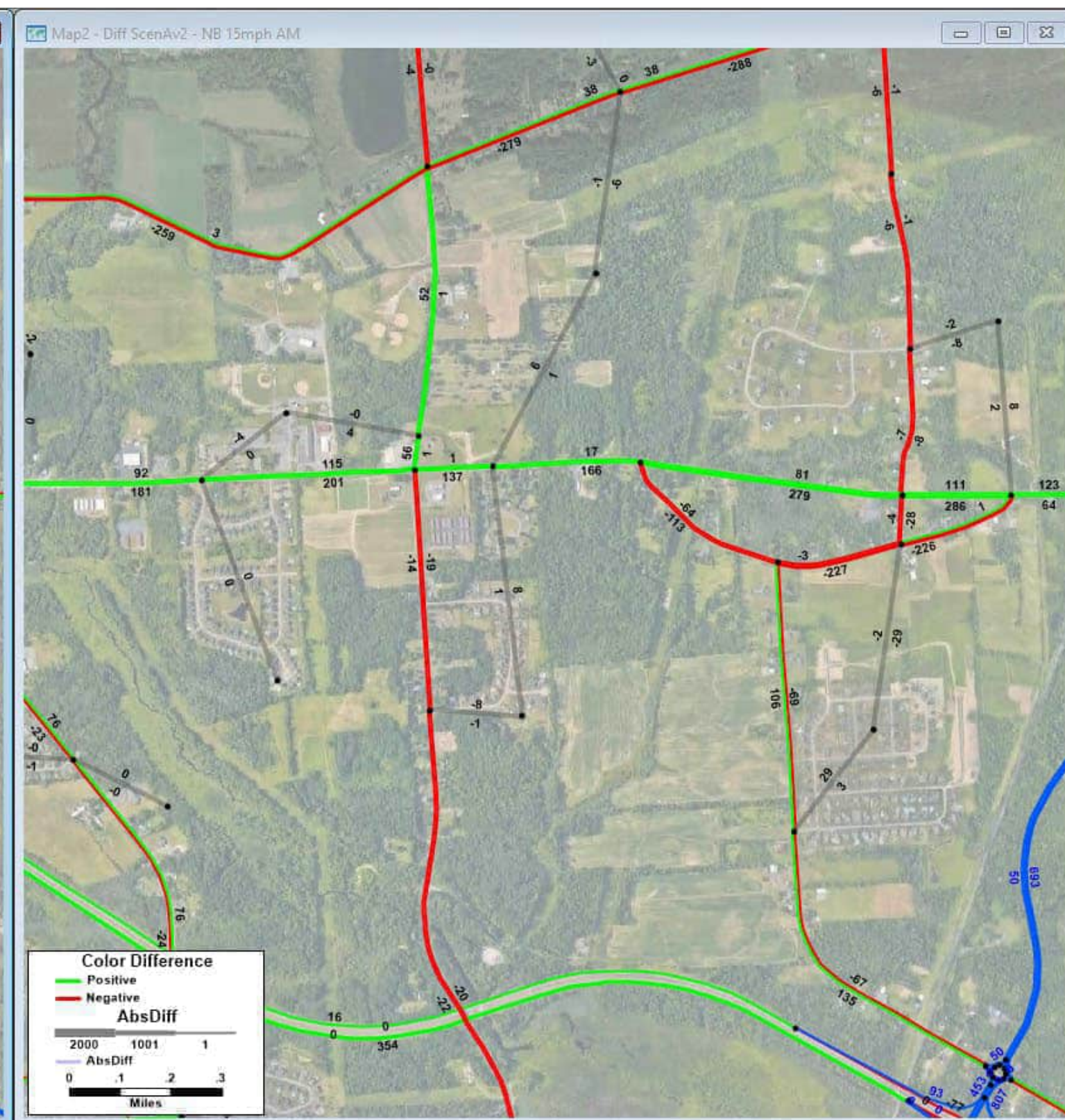




2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes

No Build: All future land use and anticipated transportation projects but no Scenario A network changes

Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

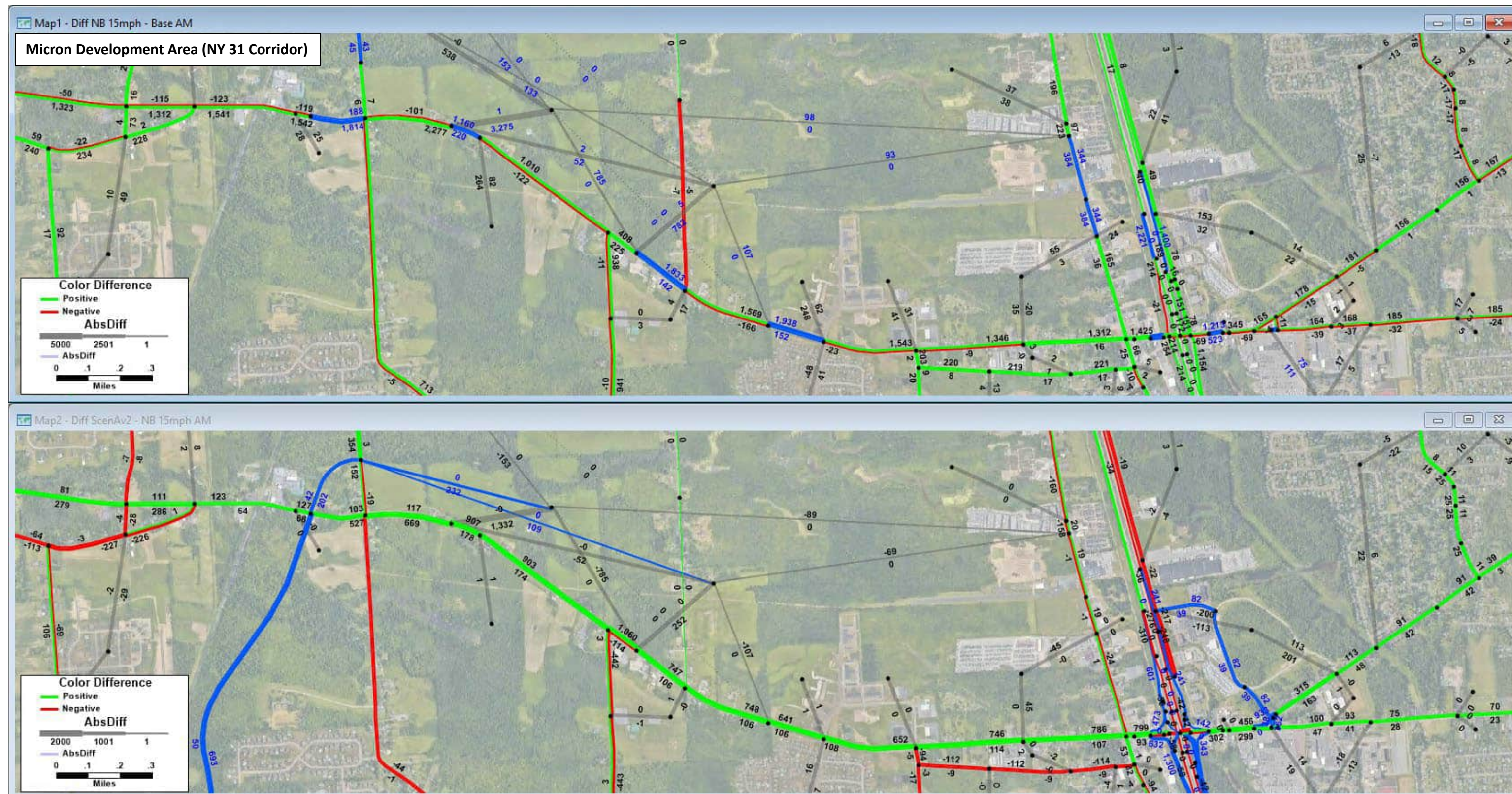


2040 Scenario A v2 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes

Build: All future land use and anticipated transportation projects with Scenario A network changes

Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

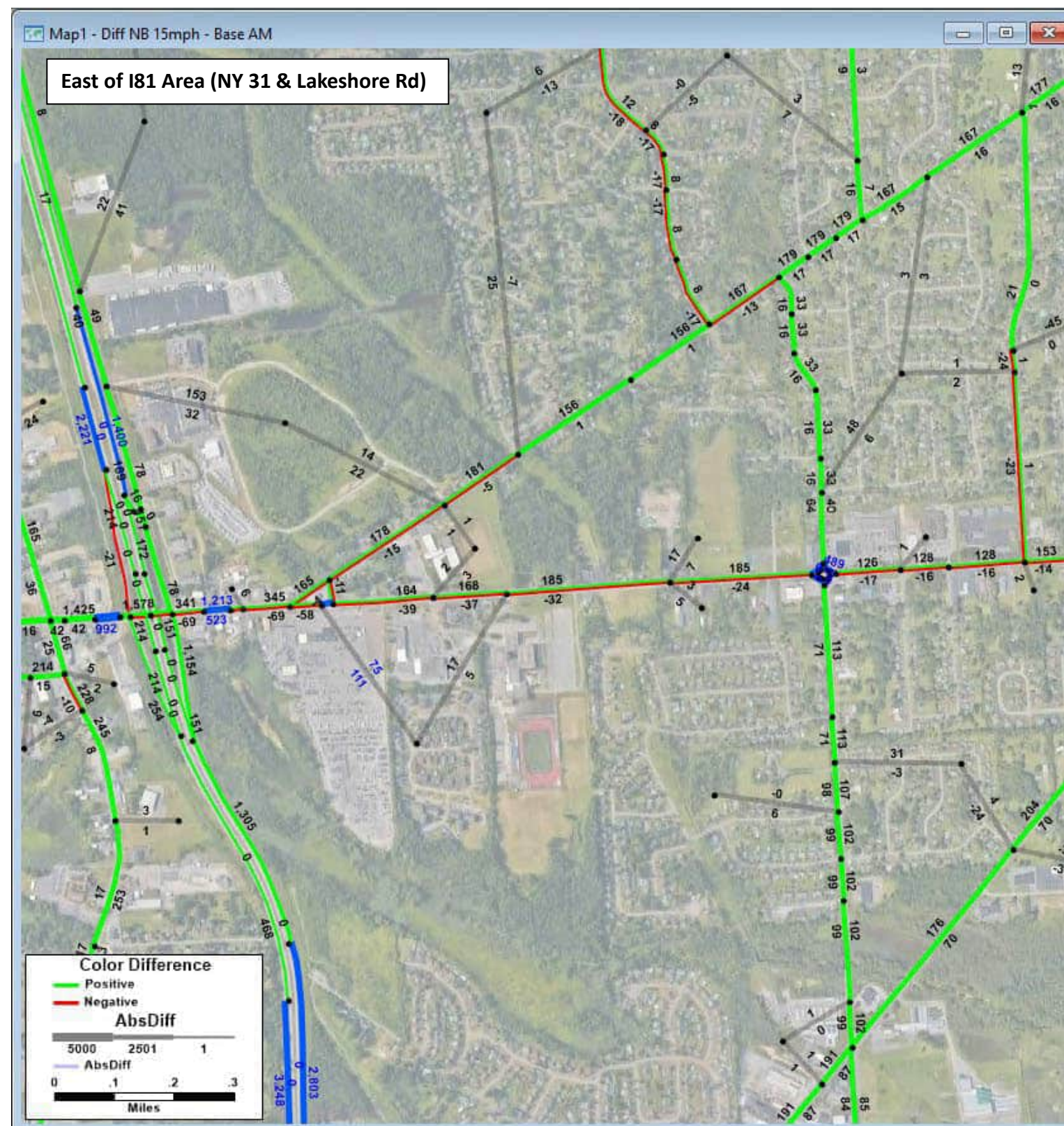




**(TOP MAP) 2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes**  
No Build: All future land use and anticipated transportation projects but no Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

**(Bottom MAP) 2040 Scenario A v2 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes**  
Build: All future land use and anticipated transportation projects with Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

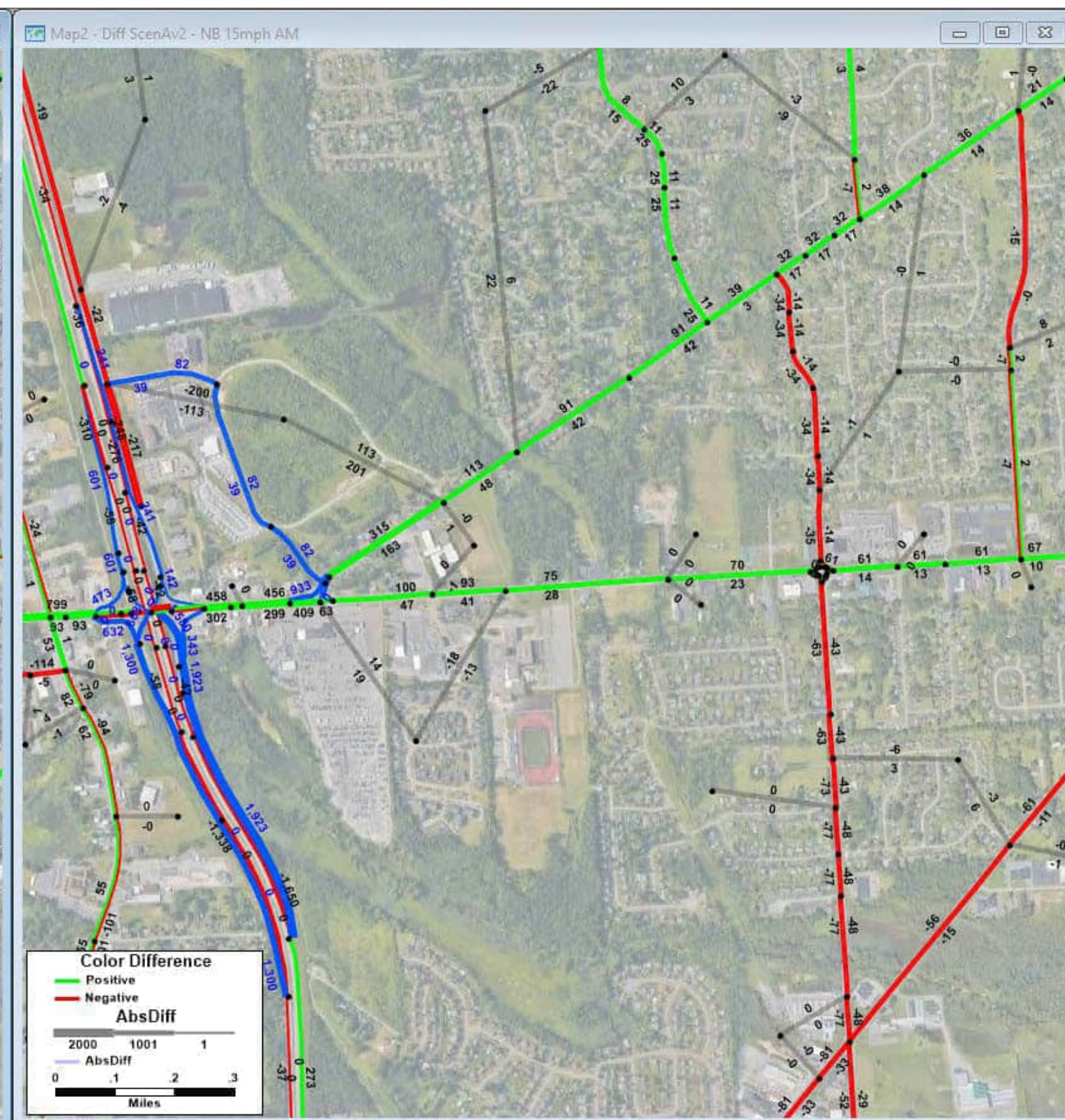




**2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes**

No Build: All future land use and anticipated transportation projects but no Scenario A network changes

Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

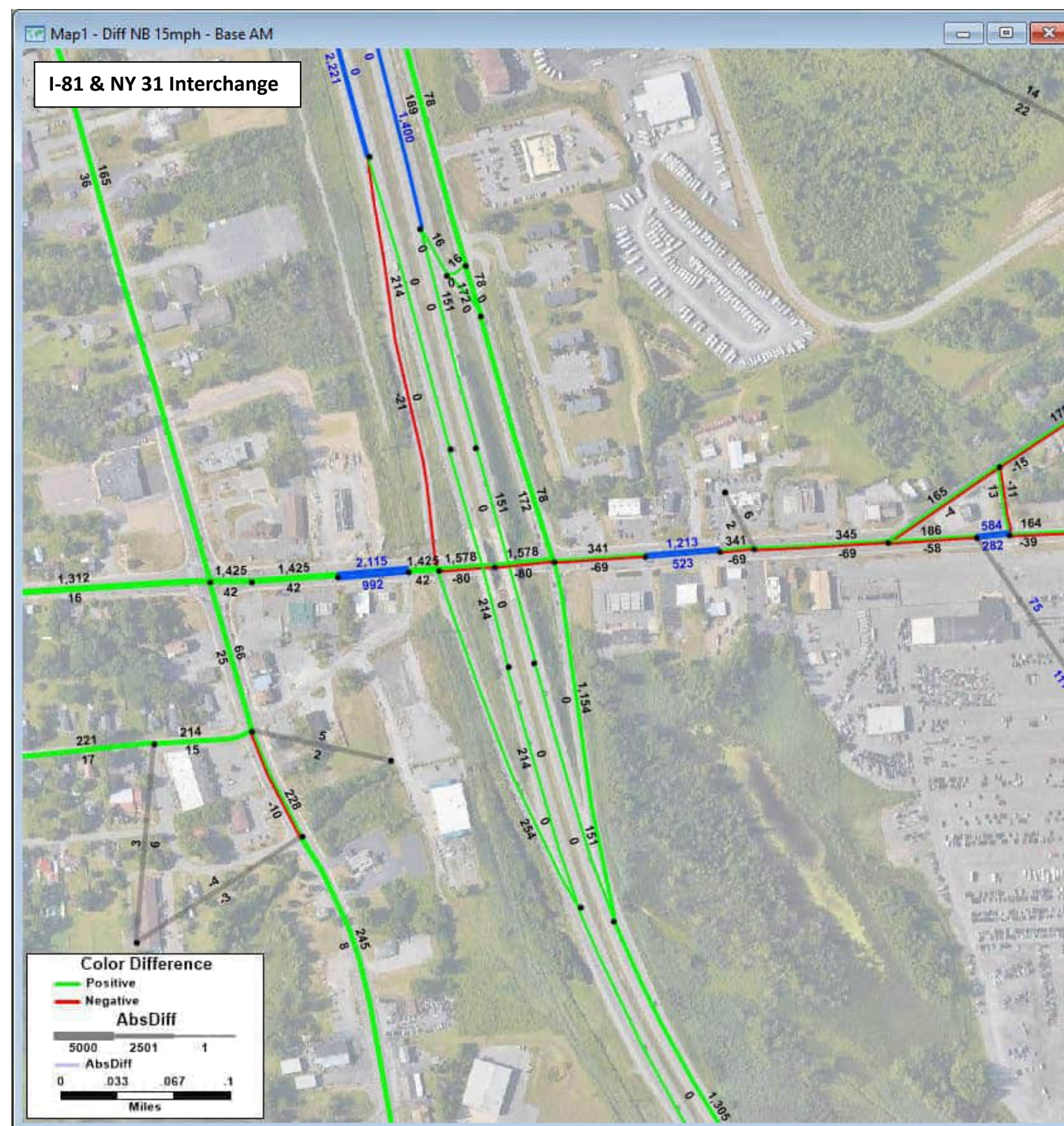


**2040 Scenario A v2 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes**

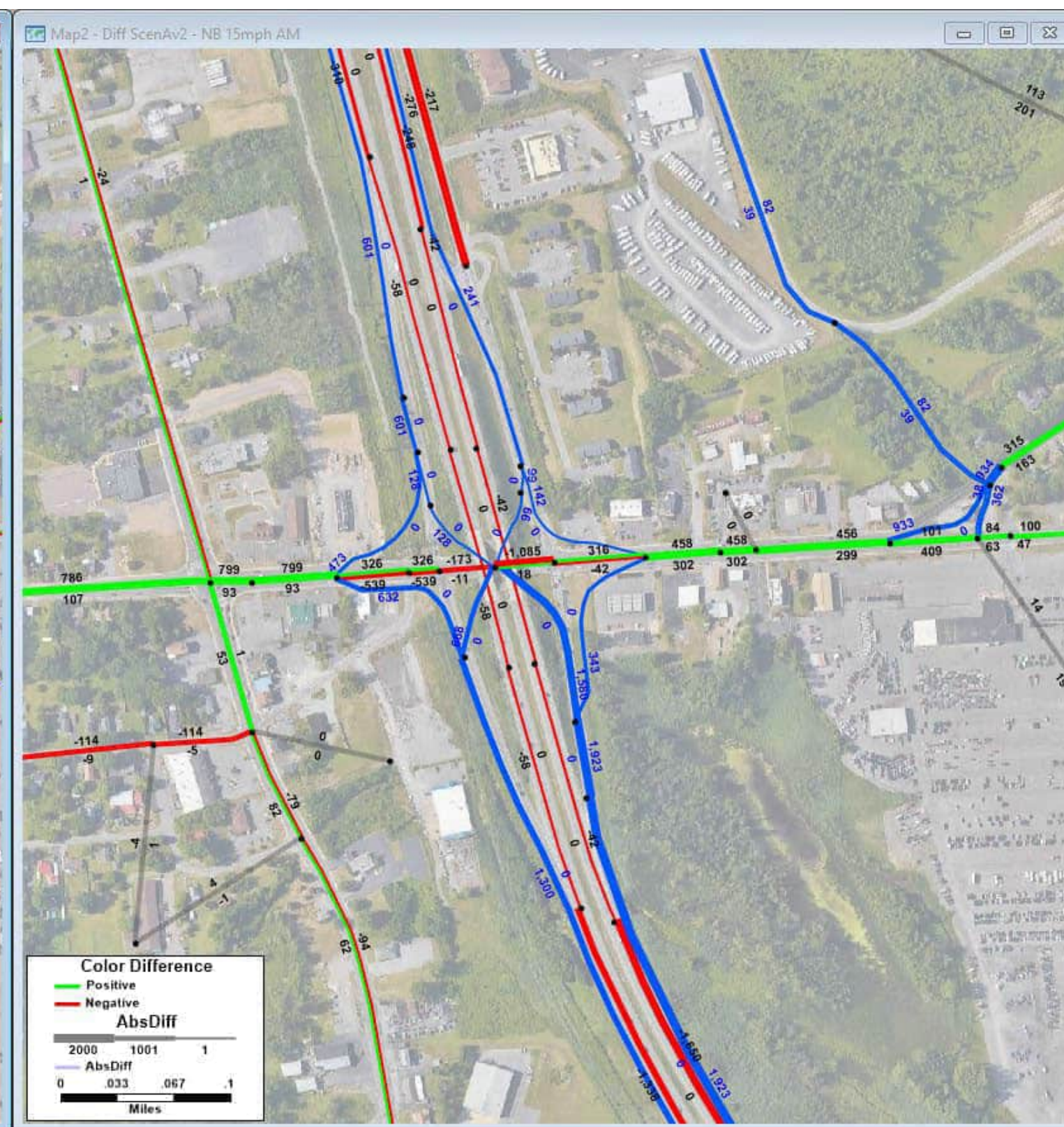
Build: All future land use and anticipated transportation projects with Scenario A network changes

Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



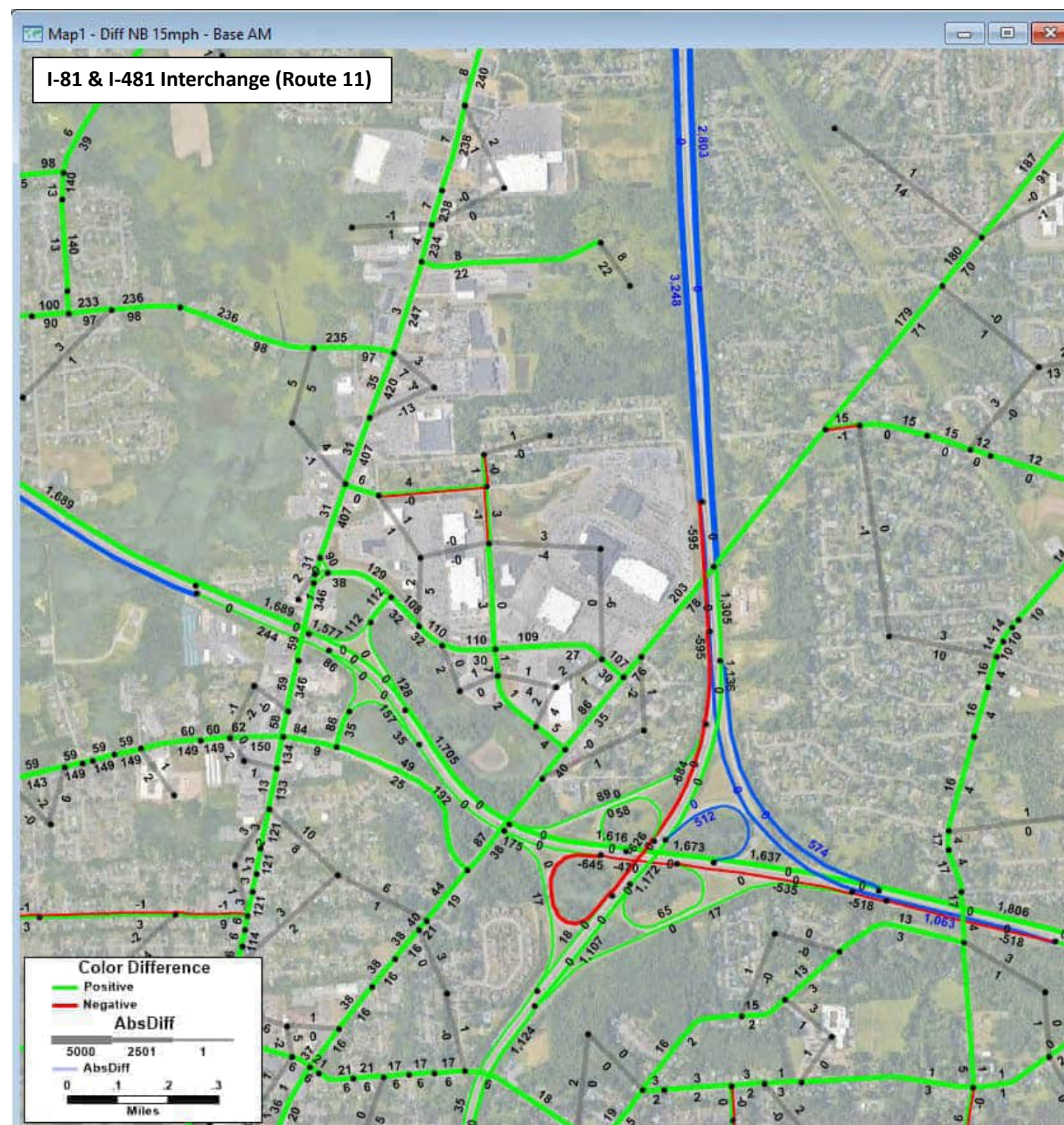


**2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes**  
No Build: All future land use and anticipated transportation projects but no Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



**2040 Scenario A v2 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes**  
Build: All future land use and anticipated transportation projects with Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

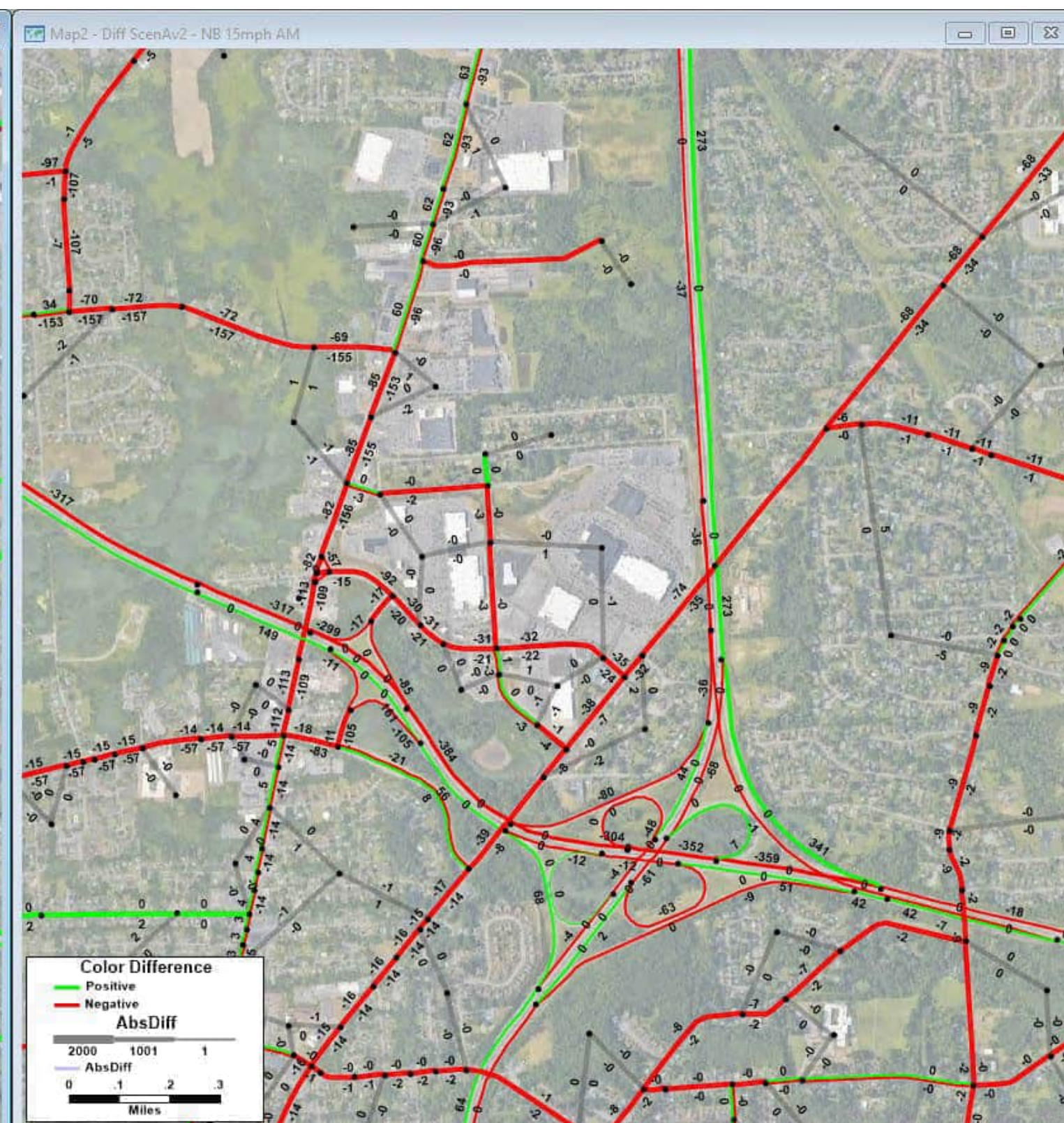




2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes

No Build: All future land use and anticipated transportation projects but no Scenario A network changes

Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

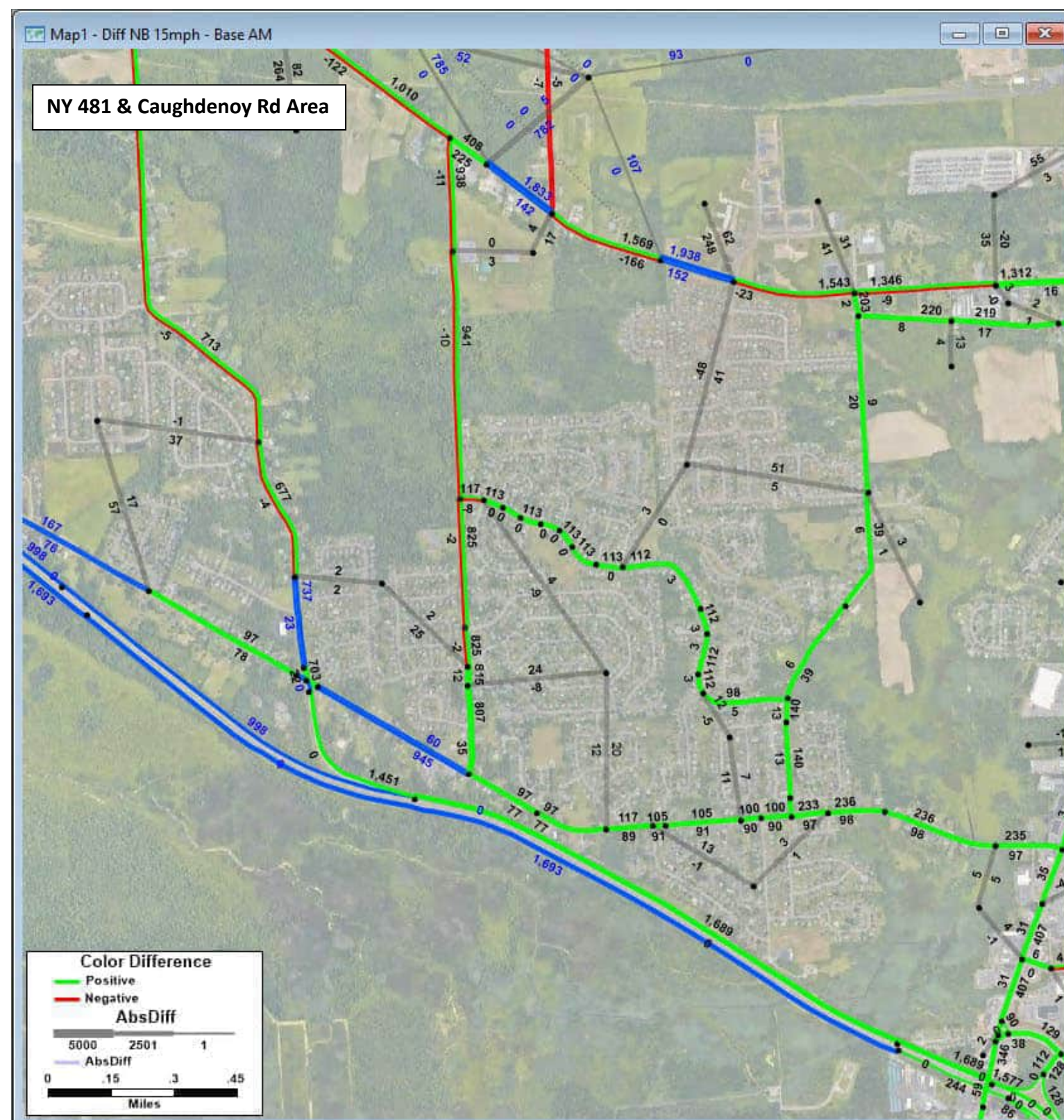


2040 Scenario A v2 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes

Build: All future land use and anticipated transportation projects with Scenario A network changes

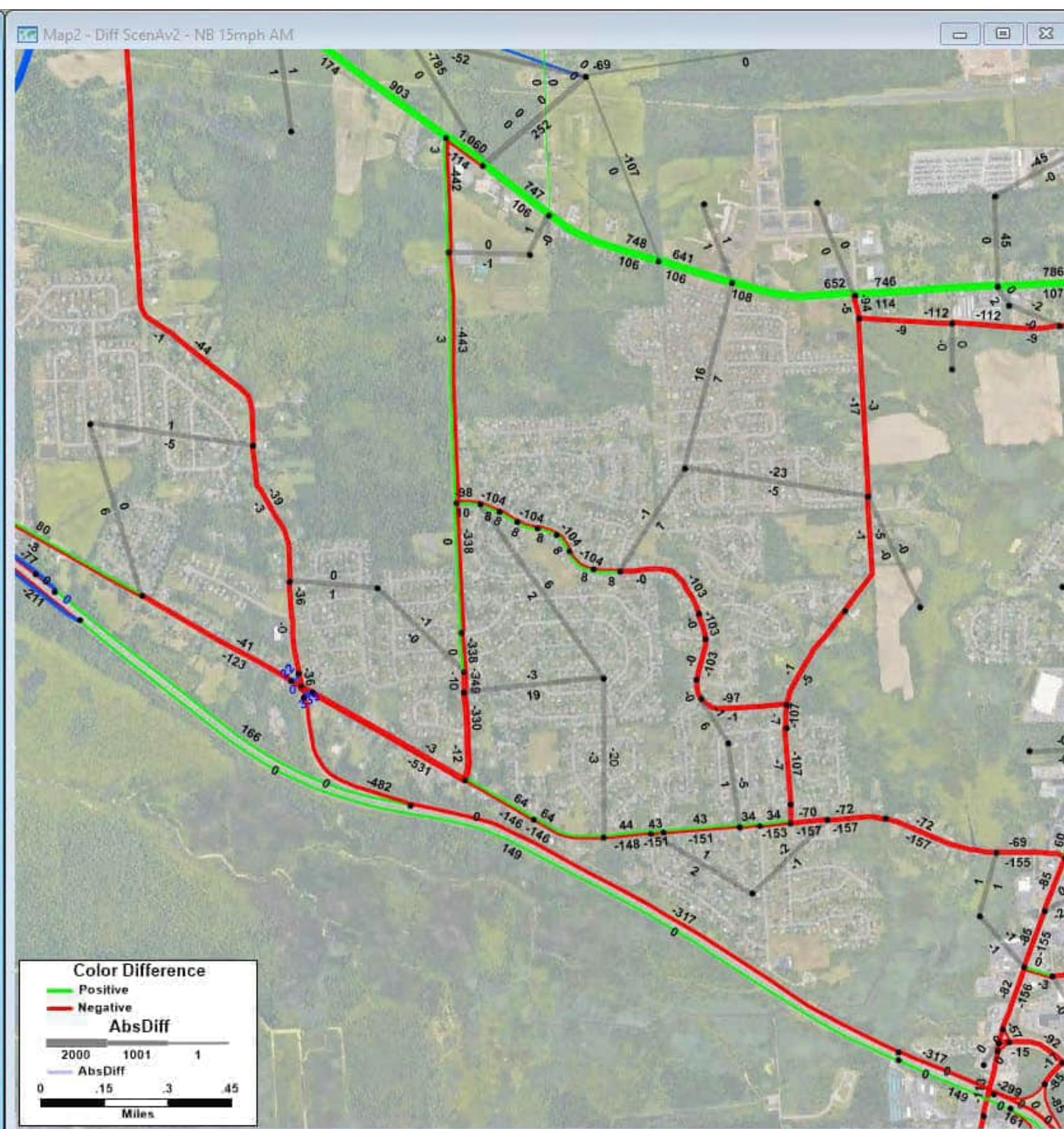
Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)





**2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes**

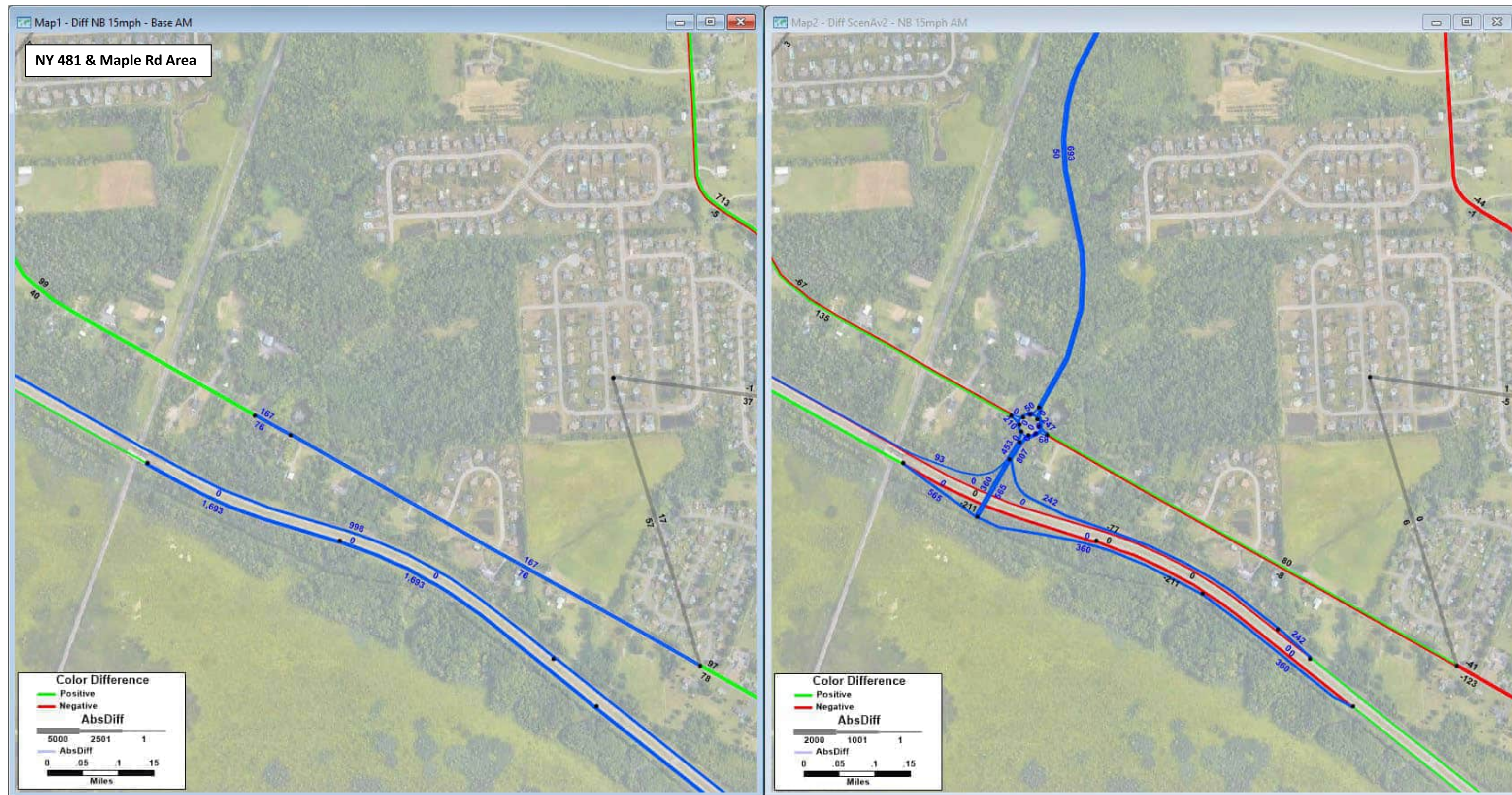
No Build: All future land use and anticipated transportation projects but no Scenario A network changes  
Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



**2040 Scenario A v2 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes**

Build: All future land use and anticipated transportation projects with Scenario A network changes  
Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)





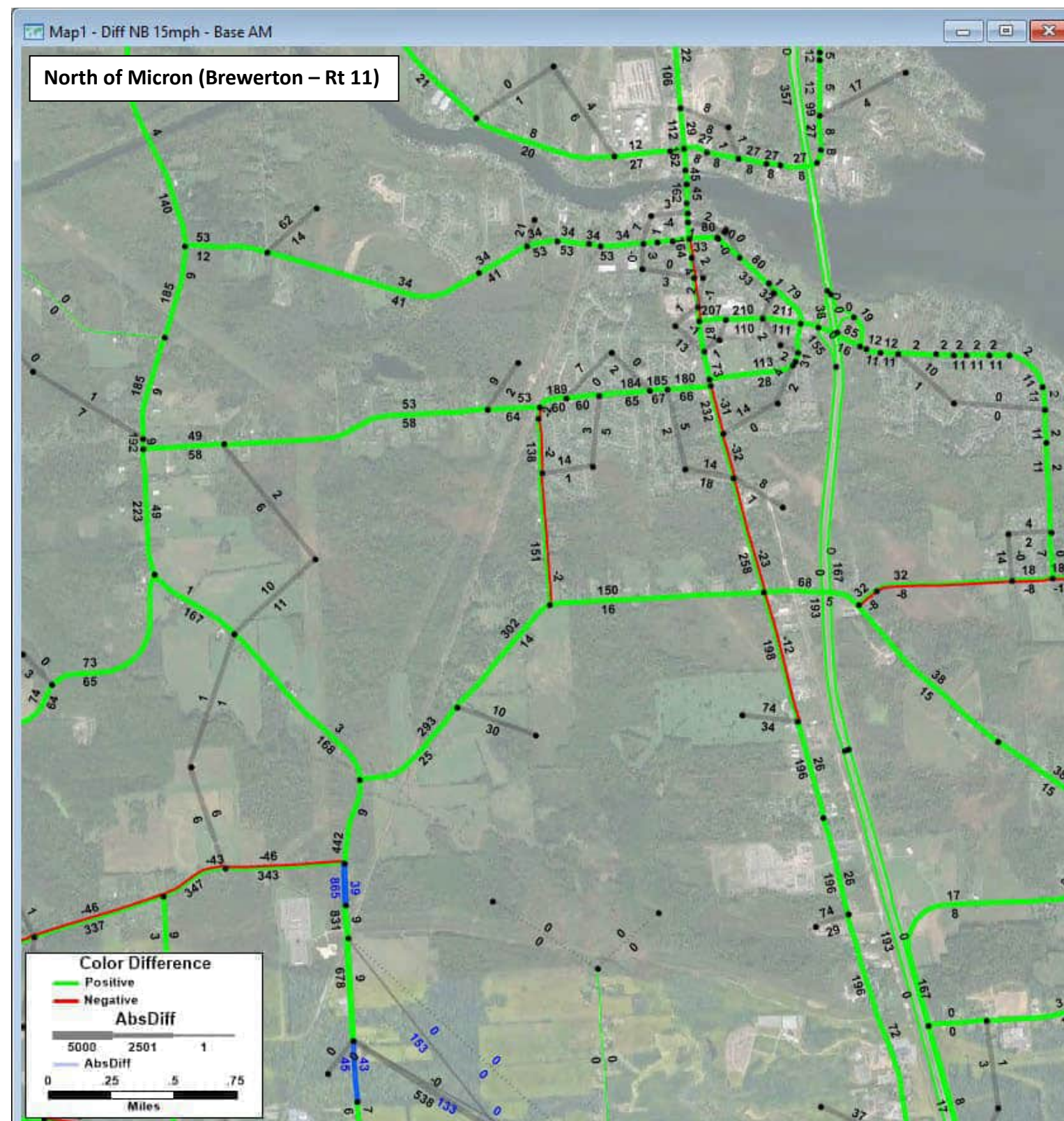
**2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes**

No Build: All future land use and anticipated transportation projects but no Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

**2040 Scenario A v2 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes**

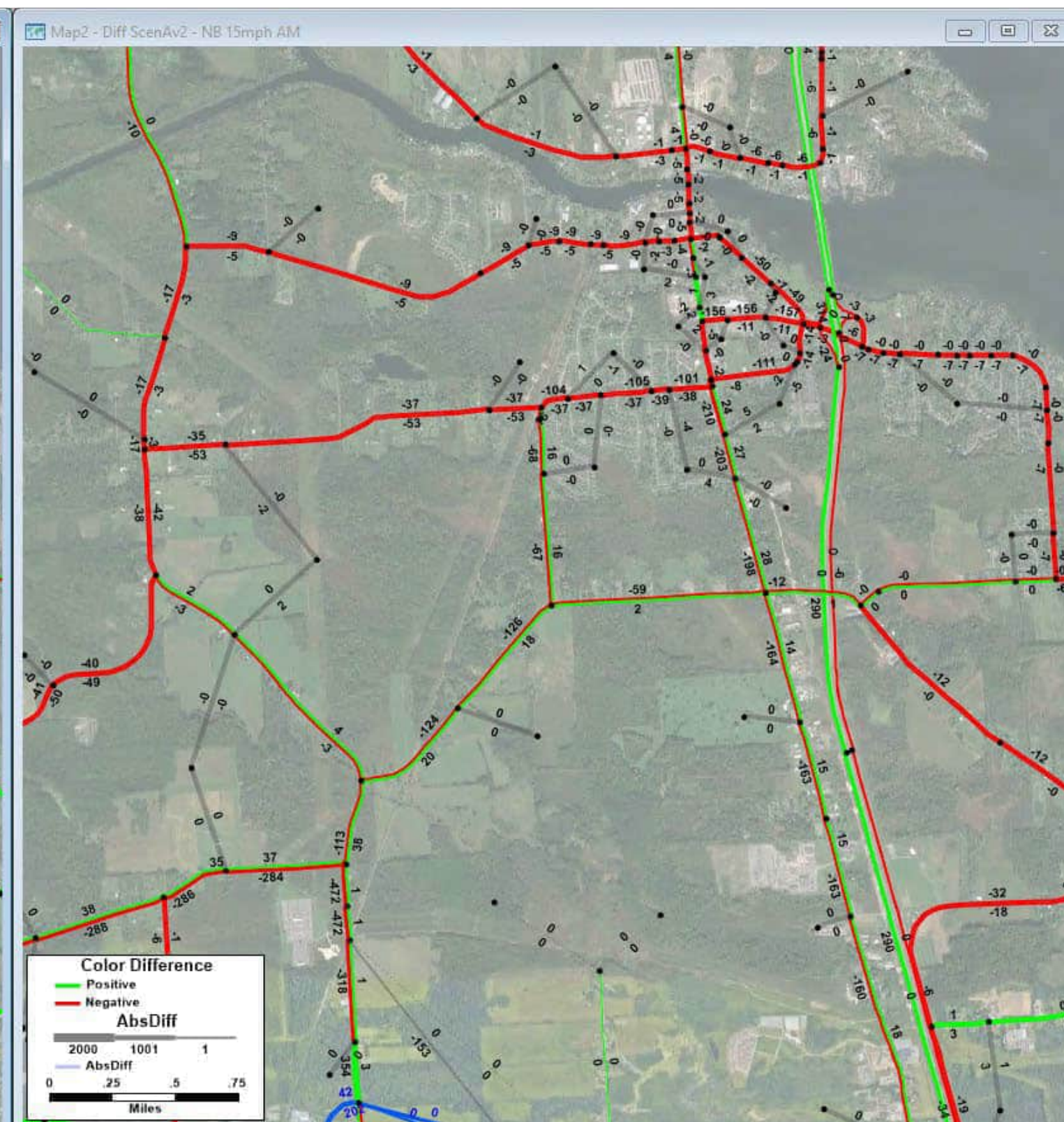
Build: All future land use and anticipated transportation projects with Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)





**2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes**

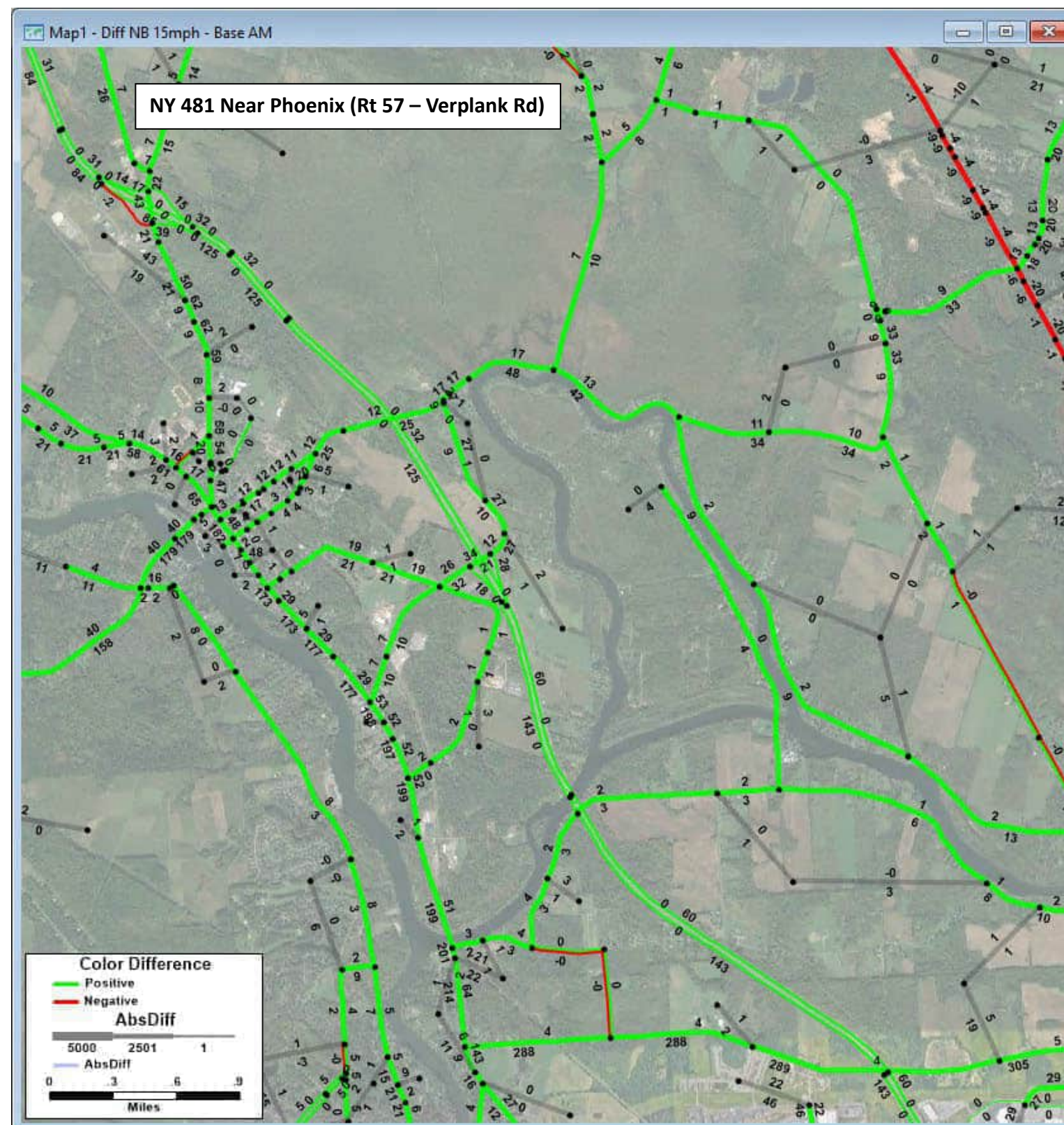
No Build: All future land use and anticipated transportation projects but no Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



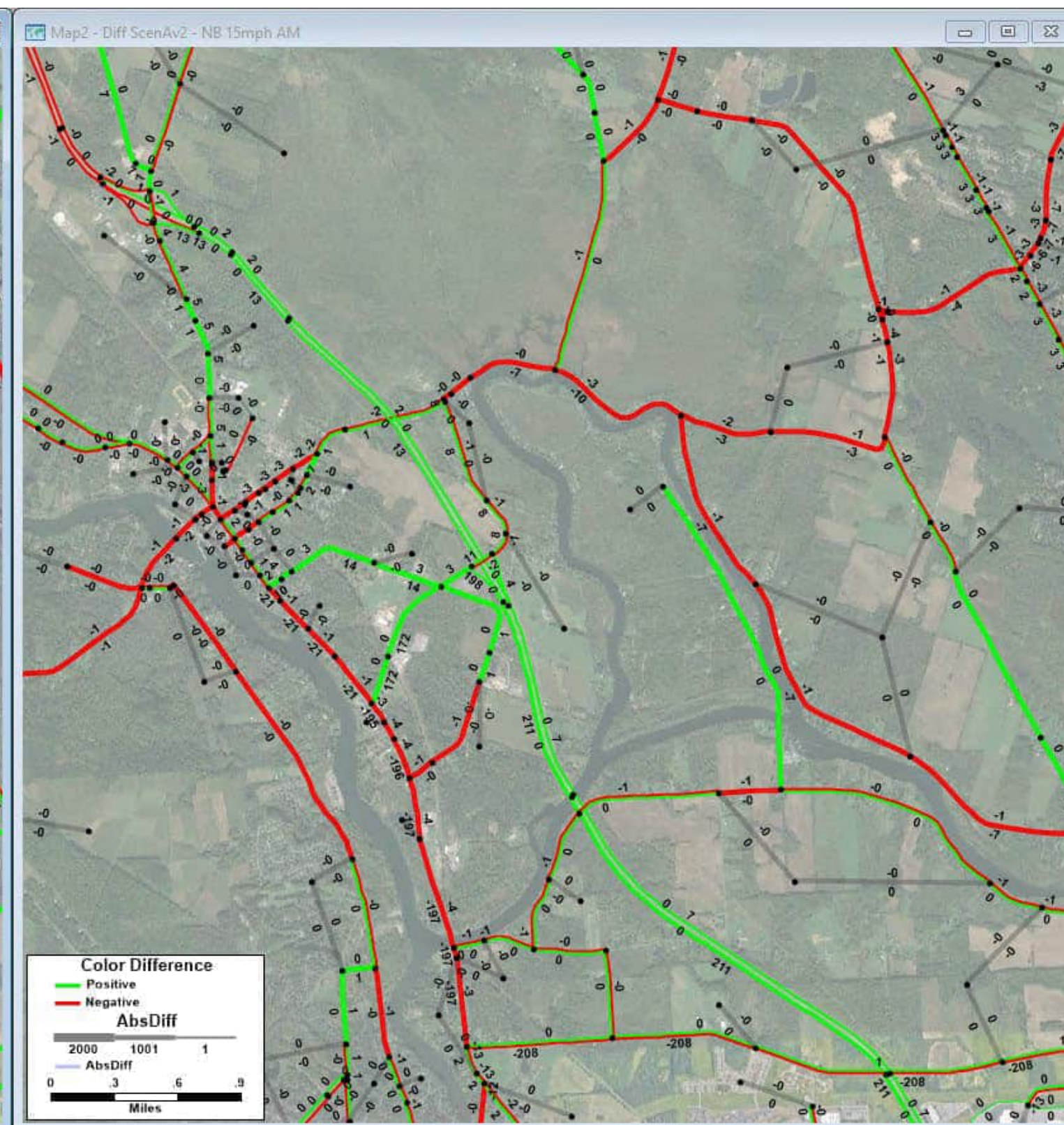
**2040 Scenario A v2 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes**

Build: All future land use and anticipated transportation projects with Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



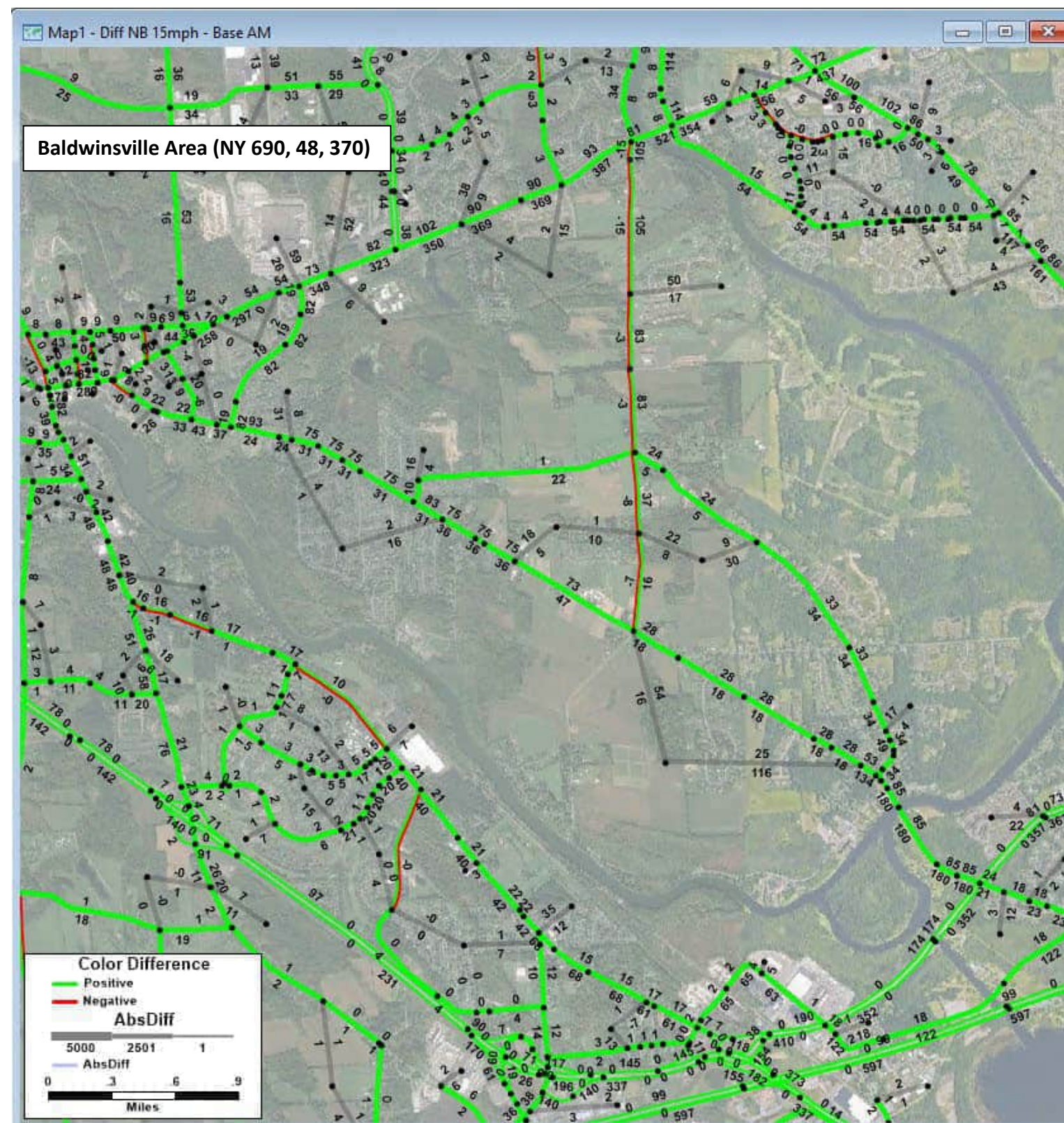


**2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes**  
No Build: All future land use and anticipated transportation projects but no Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

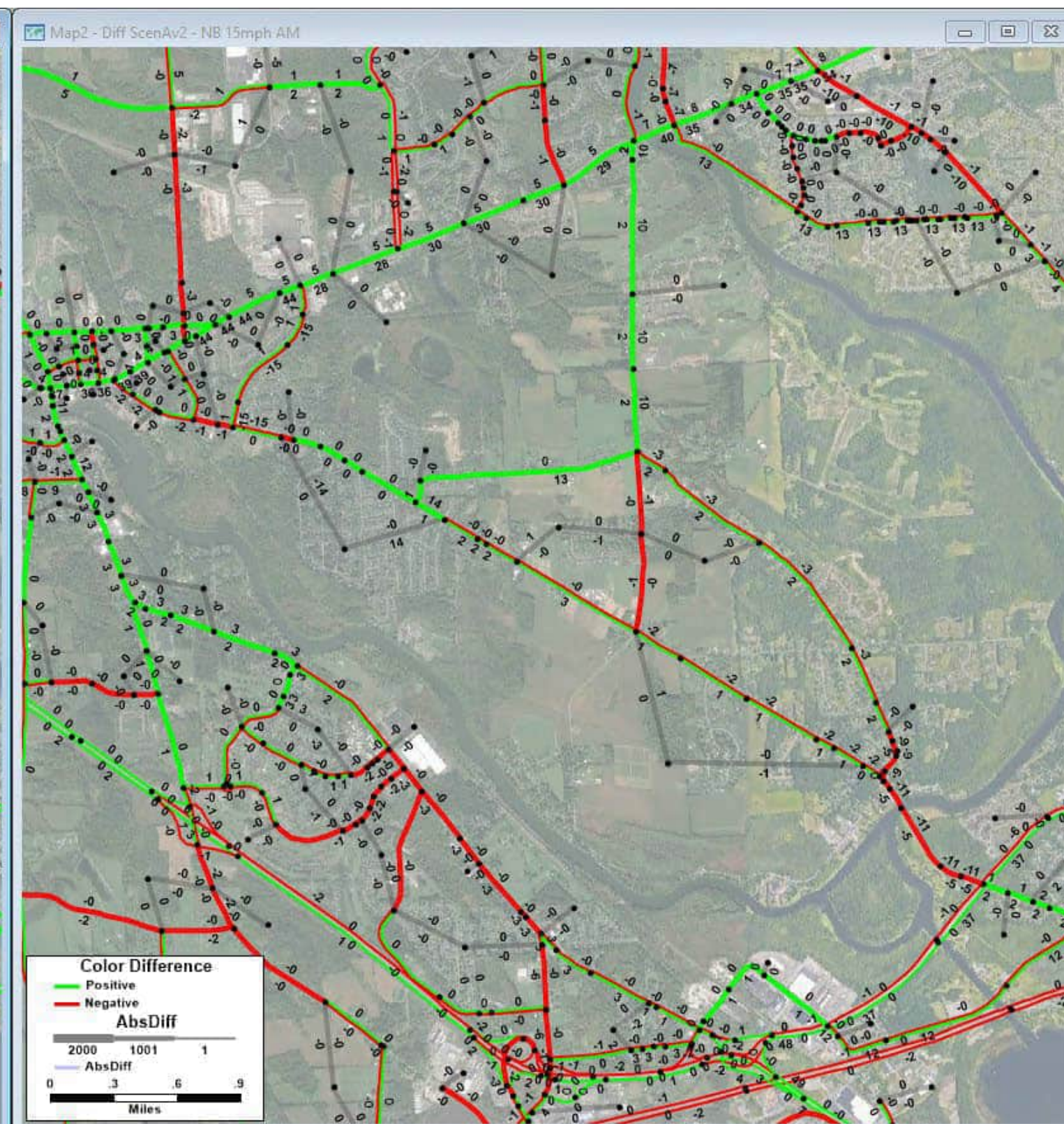


**2040 Scenario A v2 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes**  
Build: All future land use and anticipated transportation projects with Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



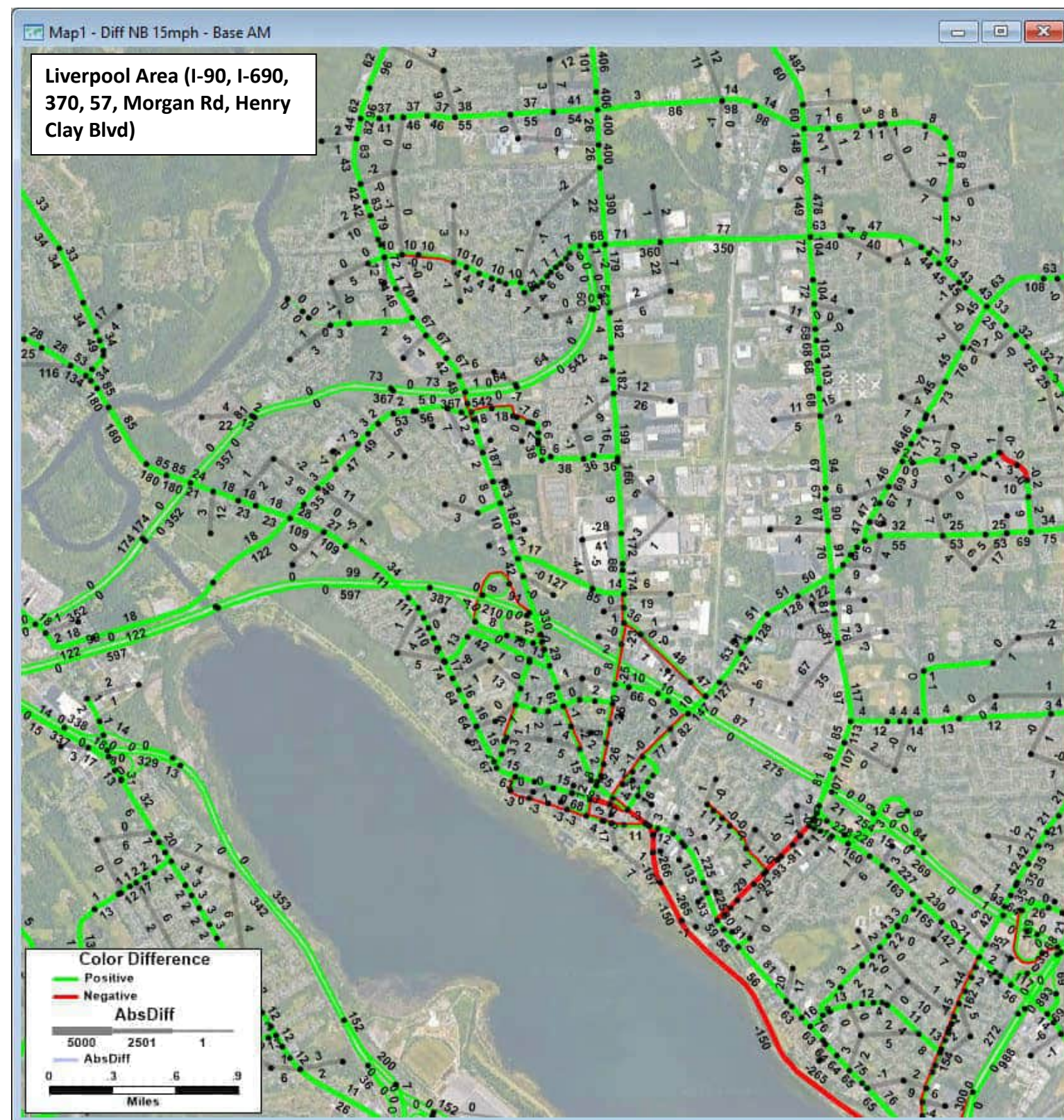


**2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes**  
No Build: All future land use and anticipated transportation projects but no Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



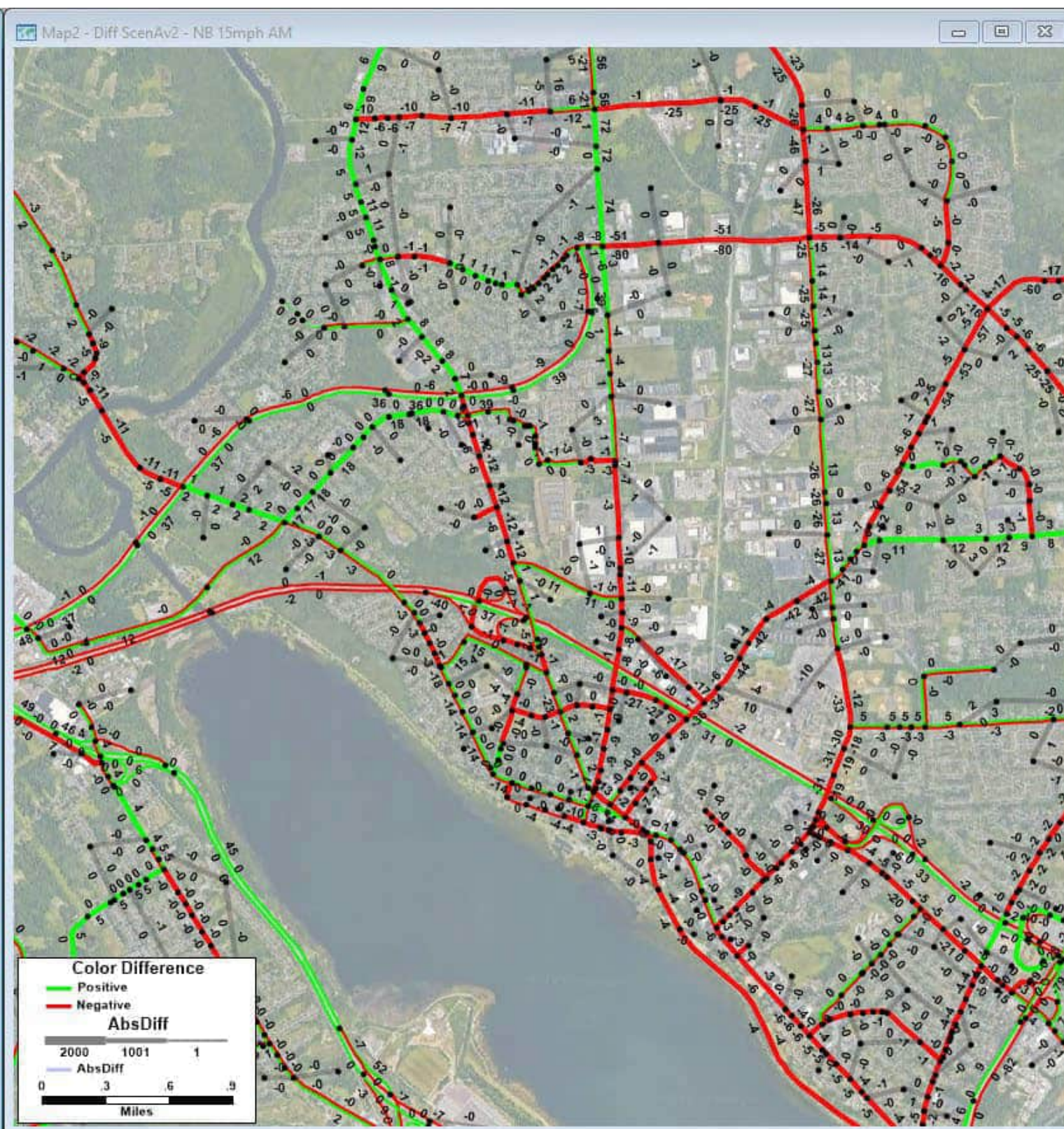
**2040 Scenario A v2 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes**  
Build: All future land use and anticipated transportation projects with Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)





2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes

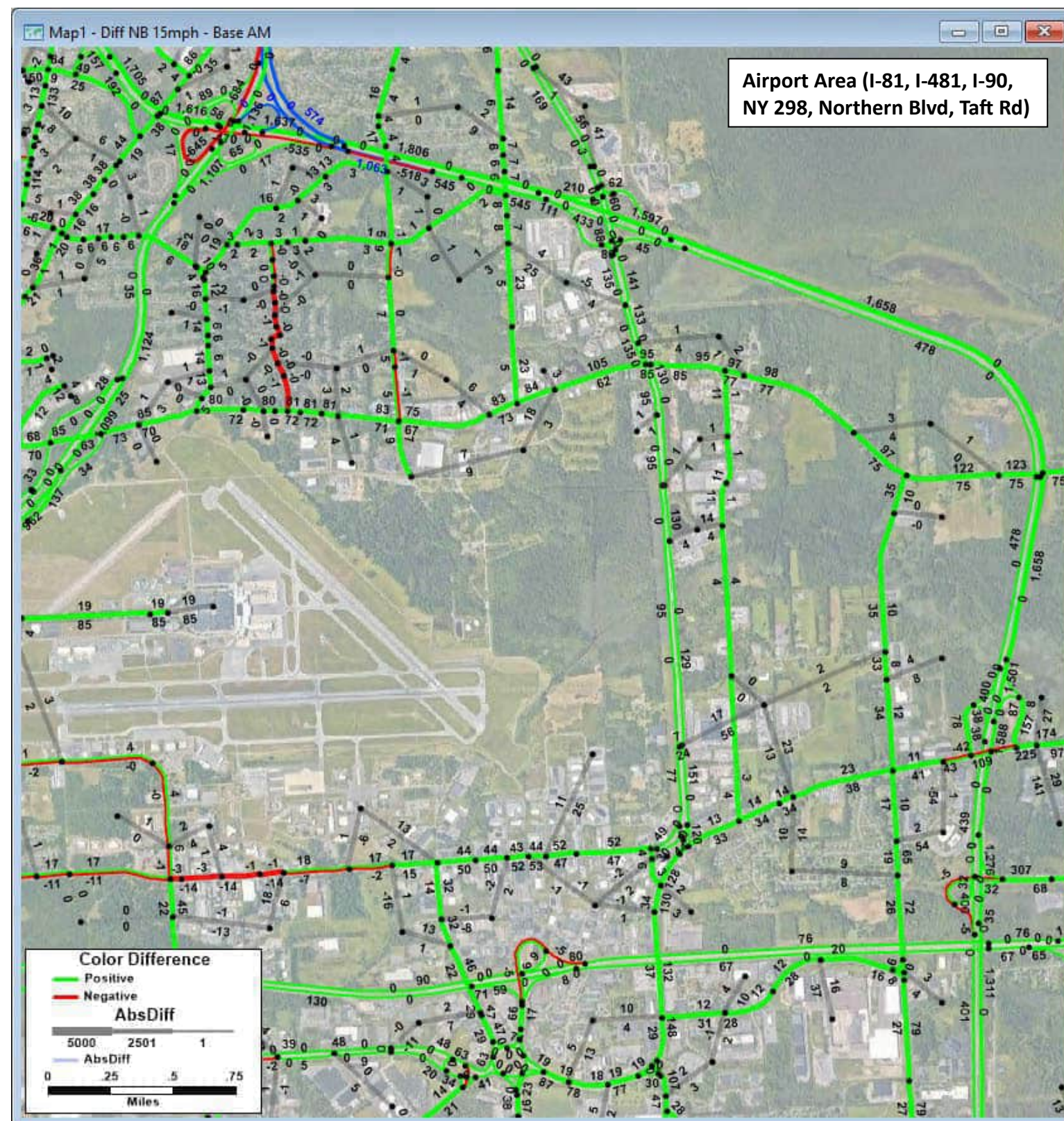
No Build: All future land use and anticipated transportation projects but no Scenario A network changes  
Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



2040 Scenario A v2 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes

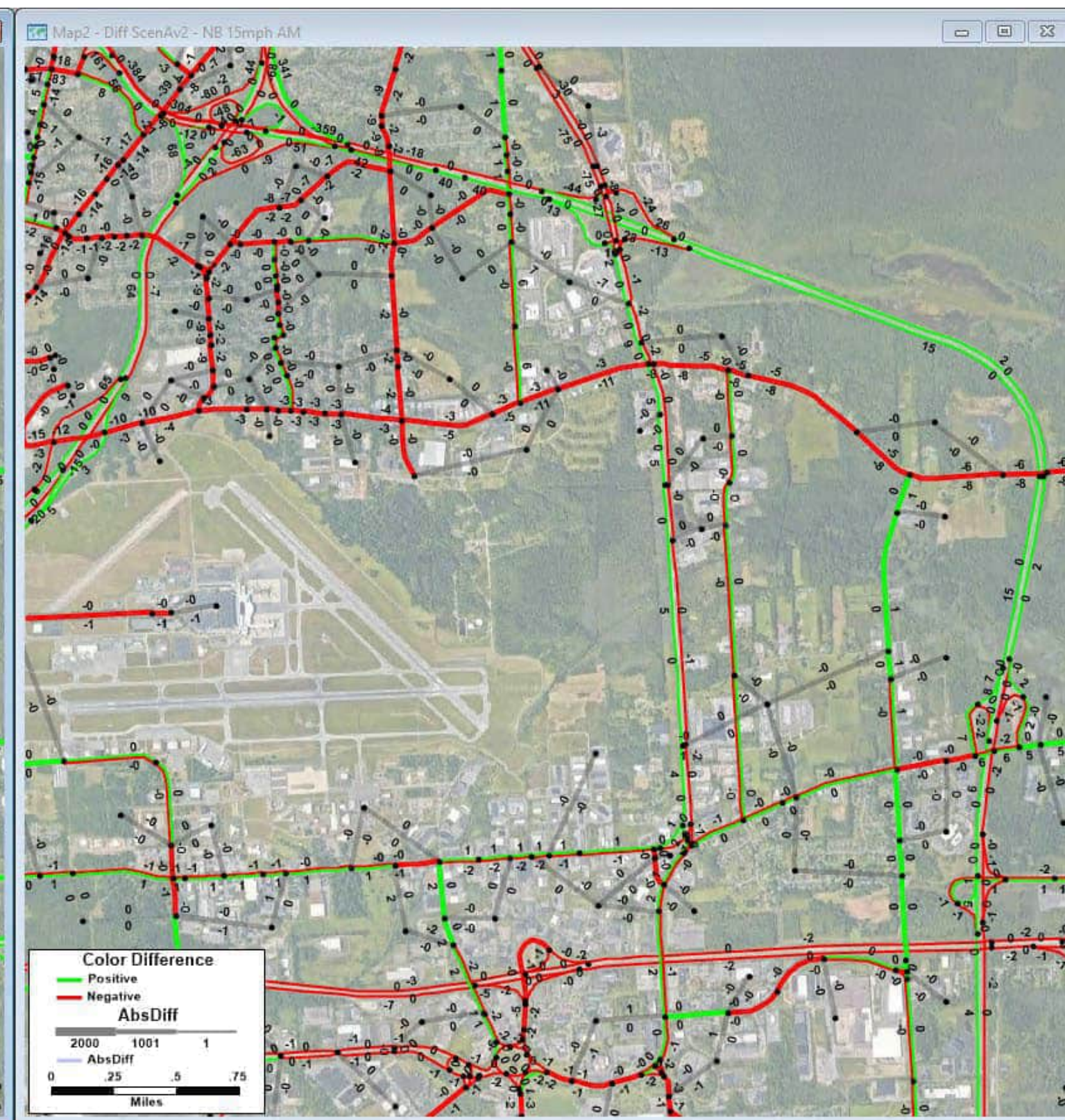
Build: All future land use and anticipated transportation projects with Scenario A network changes  
Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)





2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes

No Build: All future land use and anticipated transportation projects but no Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



2040 Scenario A v2 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes

Build: All future land use and anticipated transportation projects with Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



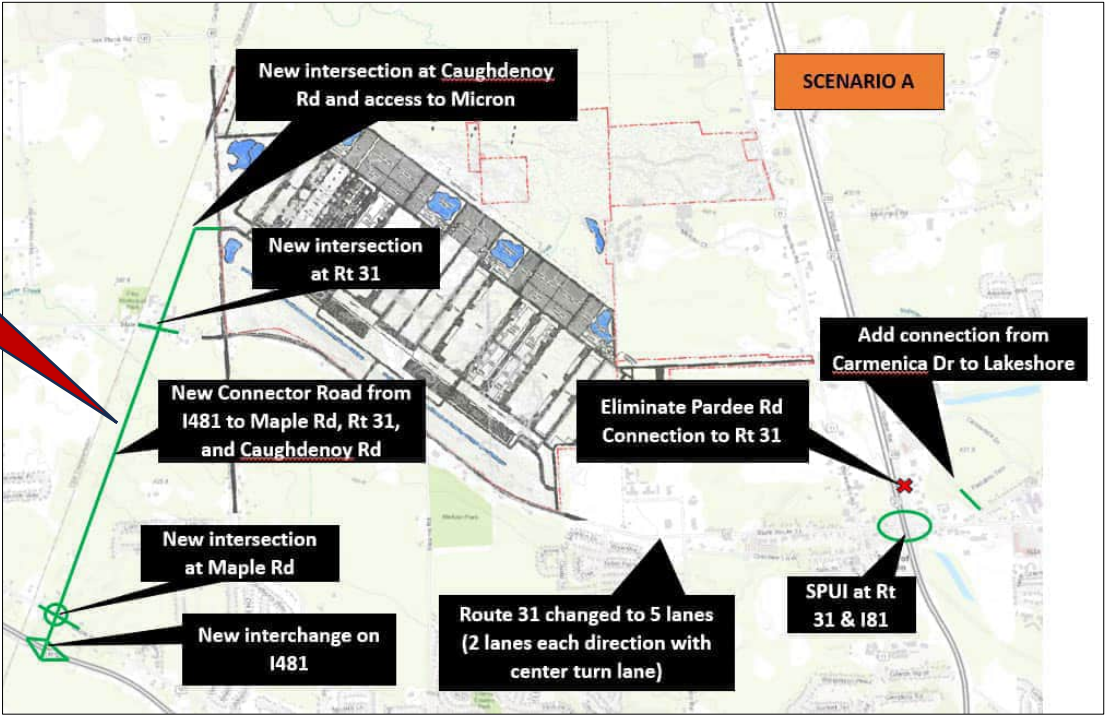
SMTC Travel Demand Model Results: **Scenario A v2** (15 MPH Micron TAZ Centroid Connectors and Increased New Road Free Flow Speed to 50 MPH) – **PM PEAK HOUR CHANGE IN VOLUMES**

The graphic to the right shows the general assumptions for **Scenario A v2** →

Notes:

- All 2040 scenarios include projected future land use growth (including Micron)
- No Build in this document refers to no Micron related road network changes
- **RED** callouts note the revisions made to Scenario A

New road free flow speed increased to 50 MPH



The graphic to the right is an example of what is included in this document →

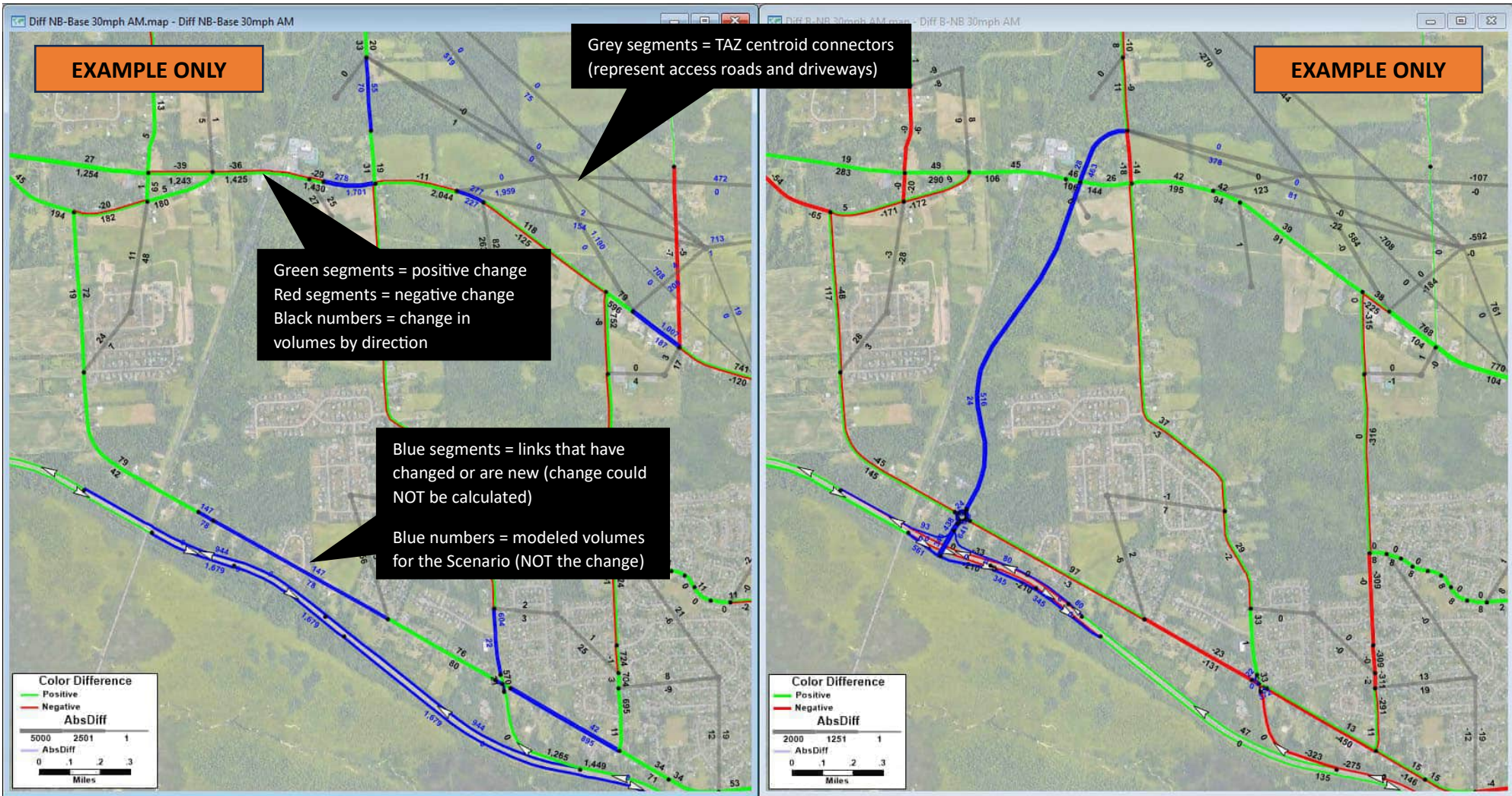
The map on the left displays the change in **PM** volumes between the 2020 existing conditions base model to the 2040 No Build (**2040 NB PM Volumes less 2020 PM volumes**). No Build in this case refers to no network improvements, the build future land use conditions are included (including Micron).

The map on the right displays the change in **PM** volumes between the 2040 No Build to the 2040 Scenario "X" Build (**2040 Scenario "X" Build PM Volumes less 2040 NB PM volumes**).

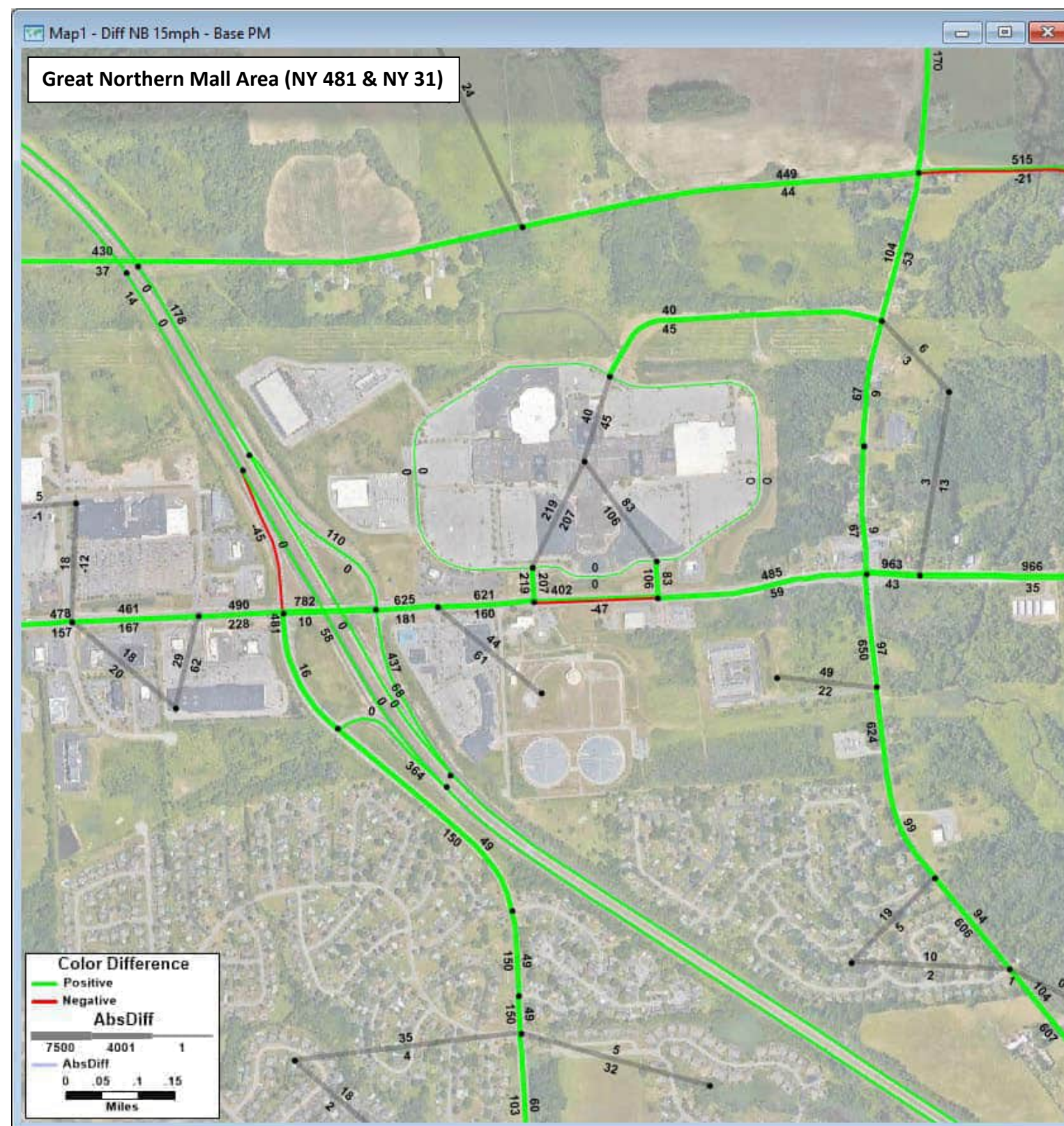
**MAP NOTES:**

- **Green** segments = positive change between identified scenarios
- **Red** segments = negative change between identified scenarios
- **Black numbers** = change in volumes by direction
- **Blue** segments = links that have changed or are new for that scenario therefore a change can **NOT** be calculated
- **Blue numbers** = modeled volume by direction on that segment for that scenario (change could NOT be calculated for that link)
- **Gray** segments = TAZ centroid connectors (general representation of access roads and driveways)

To get total future volume on a segment add up the numbers from both maps and then add that to existing traffic counts.



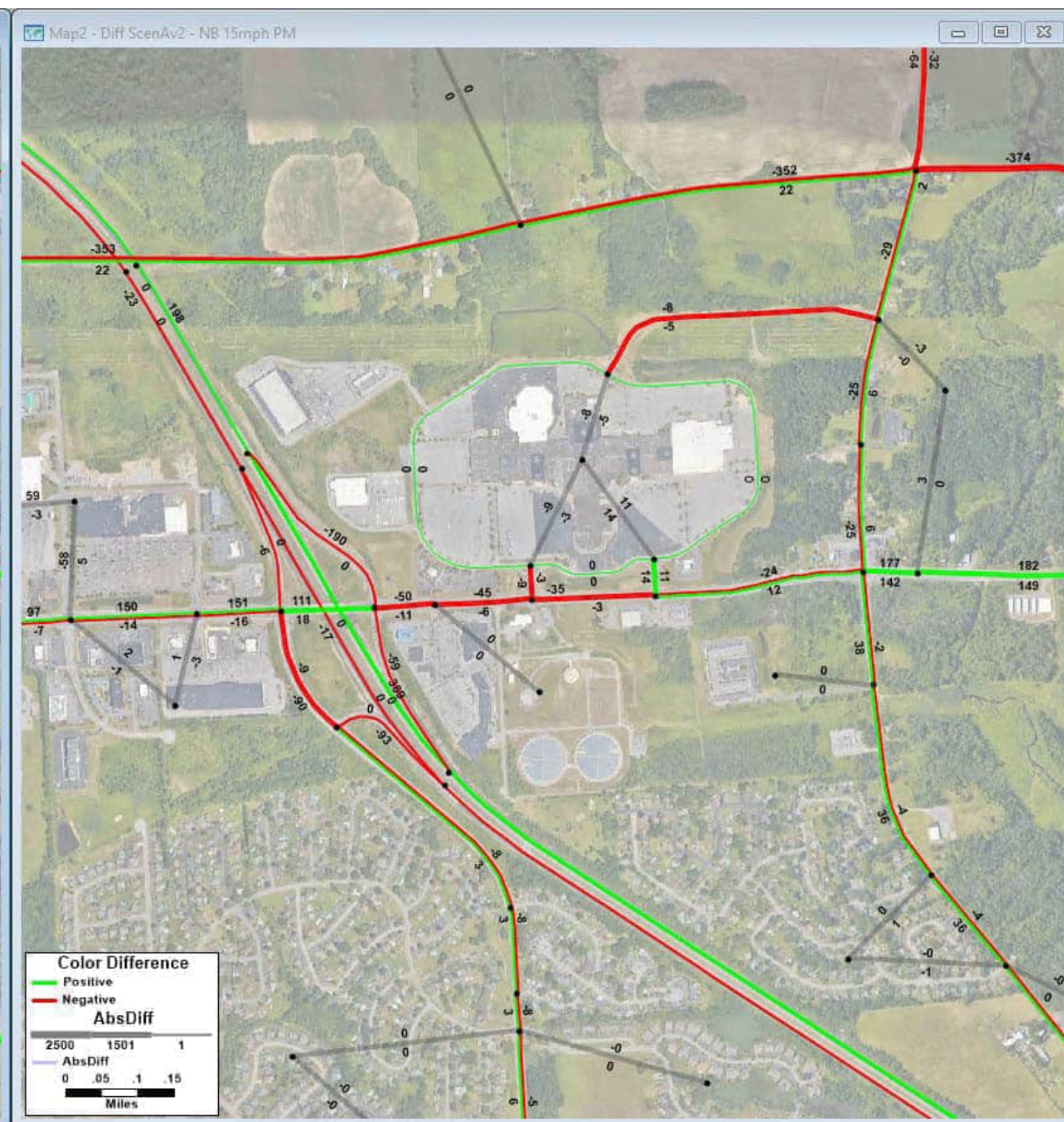




**2040 No Build PM Volumes - 2020 Existing Conditions PM Volumes = Change in PM Volumes**

No Build: All future land use and anticipated transportation projects but no Scenario A network changes

Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

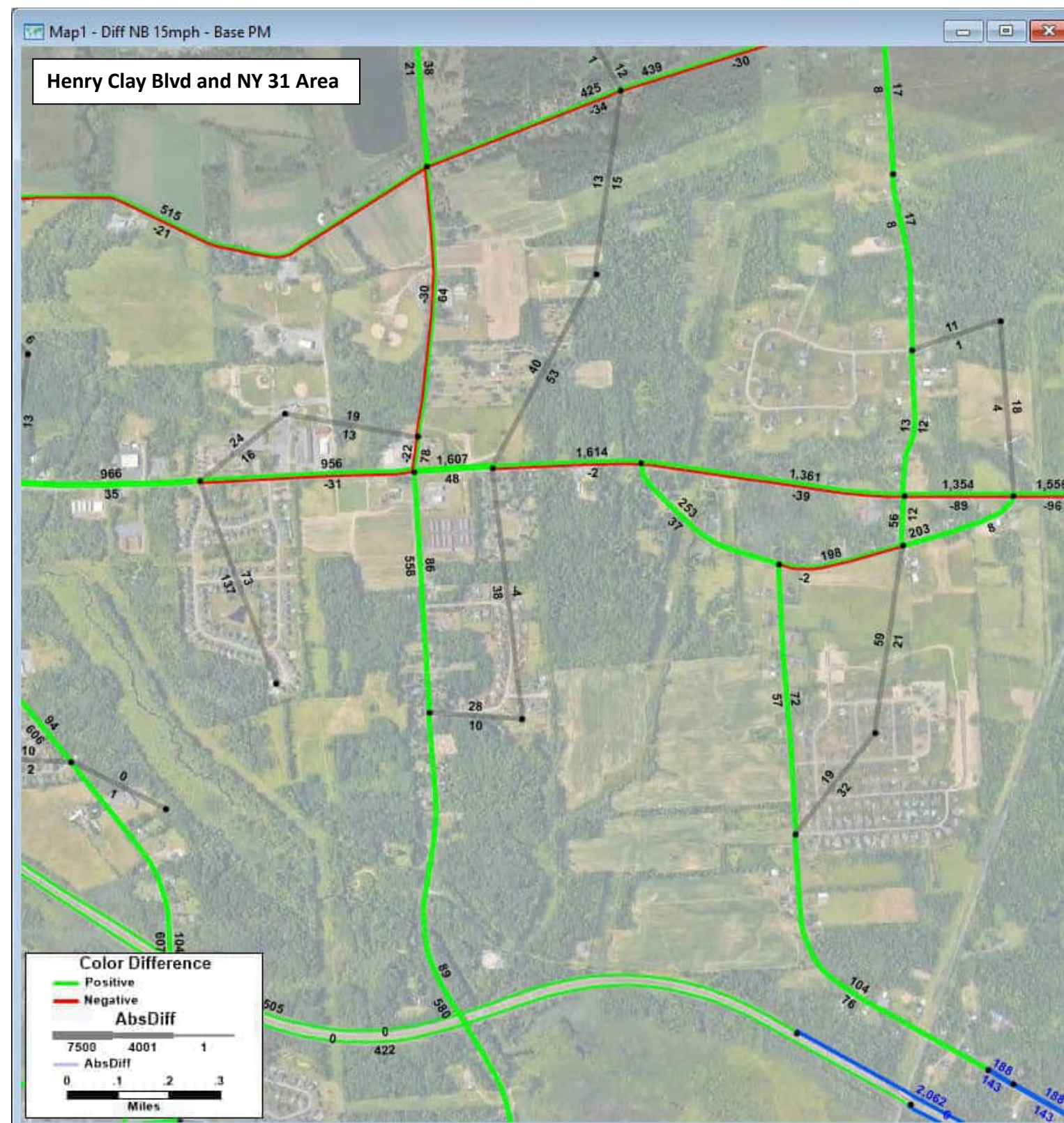


**2040 Scenario A v2 PM Volumes - 2040 No Build PM Volumes = Change in PM Volumes**

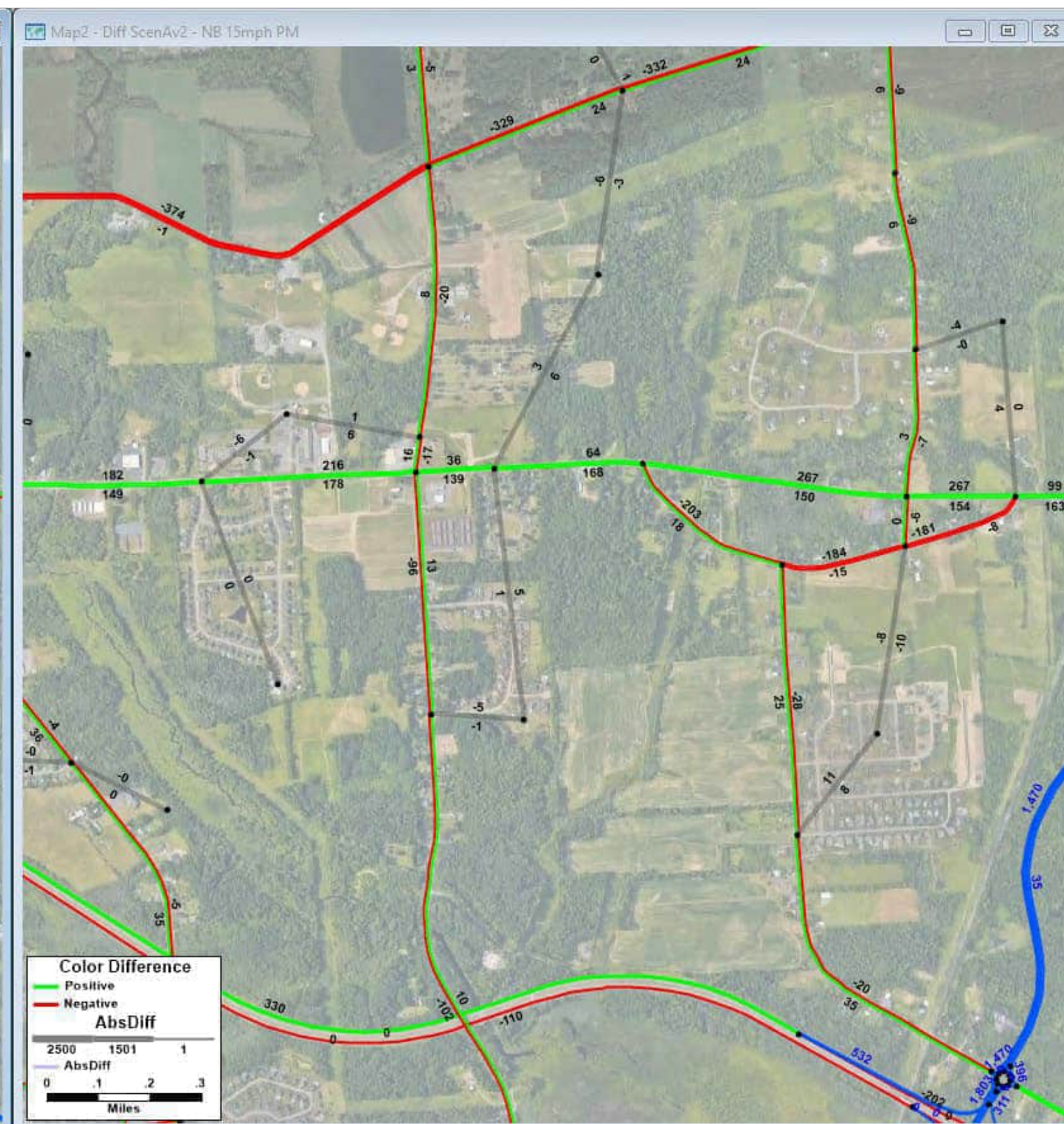
Build: All future land use and anticipated transportation projects with Scenario A network changes

Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



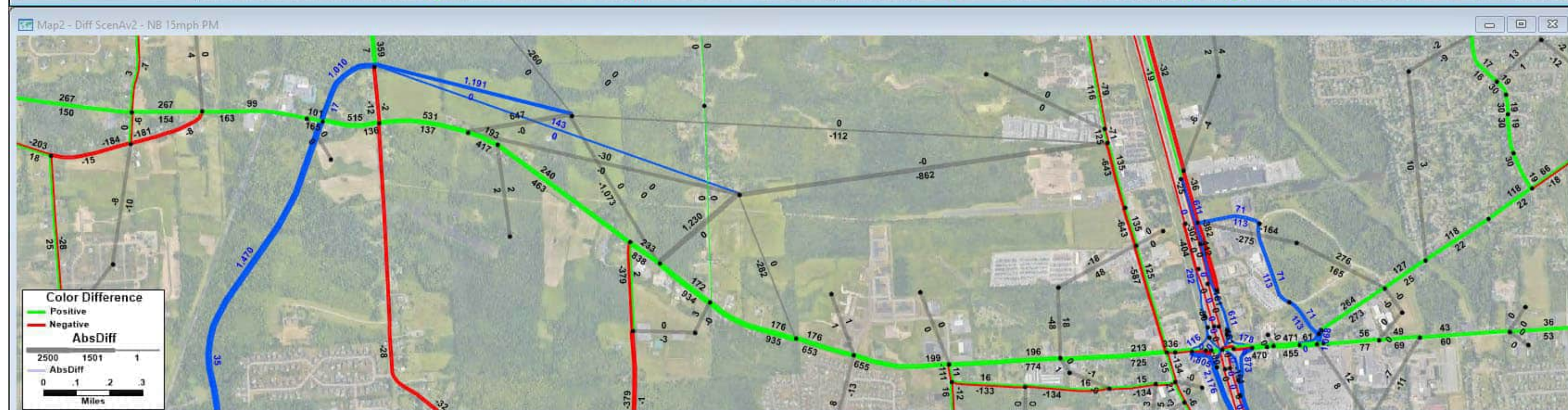
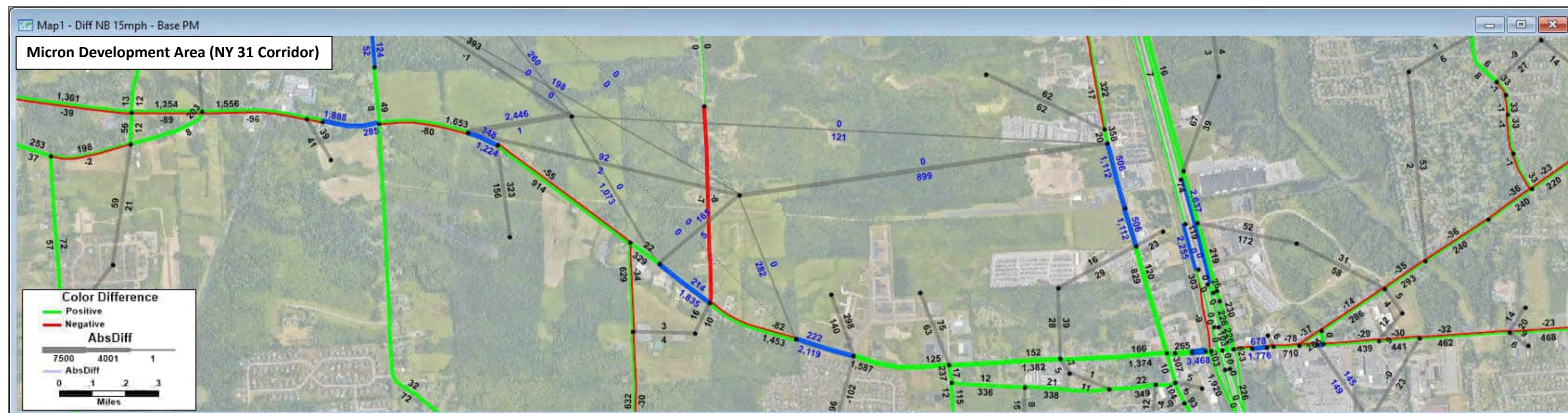


**2040 No Build PM Volumes - 2020 Existing Conditions PM Volumes = Change in PM Volumes**  
No Build: All future land use and anticipated transportation projects but no Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



**2040 Scenario A v2 PM Volumes - 2040 No Build PM Volumes = Change in PM Volumes**  
Build: All future land use and anticipated transportation projects with Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

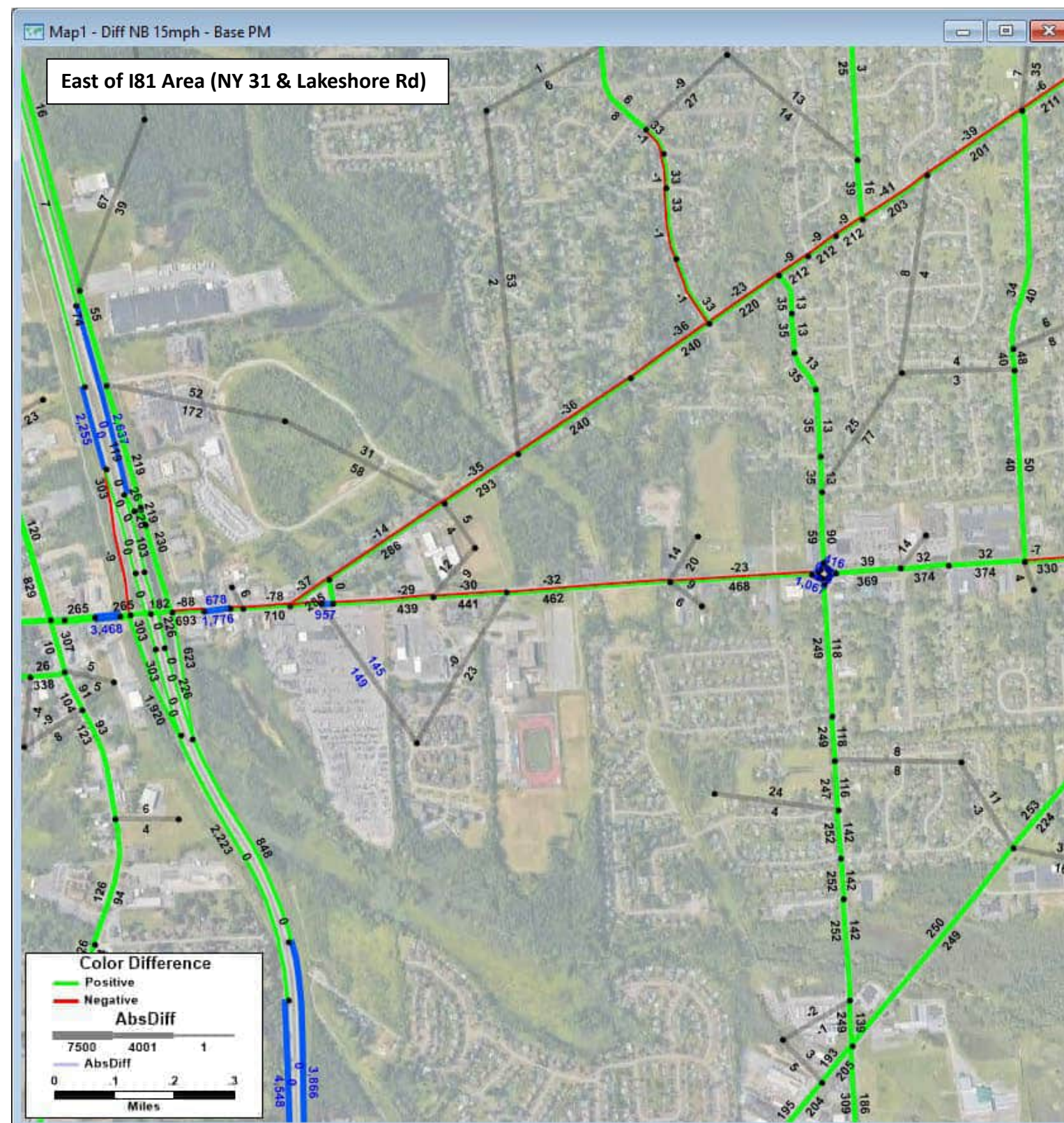




**(TOP MAP) 2040 No Build PM Volumes - 2020 Existing Conditions PM Volumes = Change in PM Volumes**  
No Build: All future land use and anticipated transportation projects but no Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

**(Bottom MAP) 2040 Scenario A v2 PM Volumes - 2040 No Build PM Volumes = Change in PM Volumes**  
Build: All future land use and anticipated transportation projects with Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

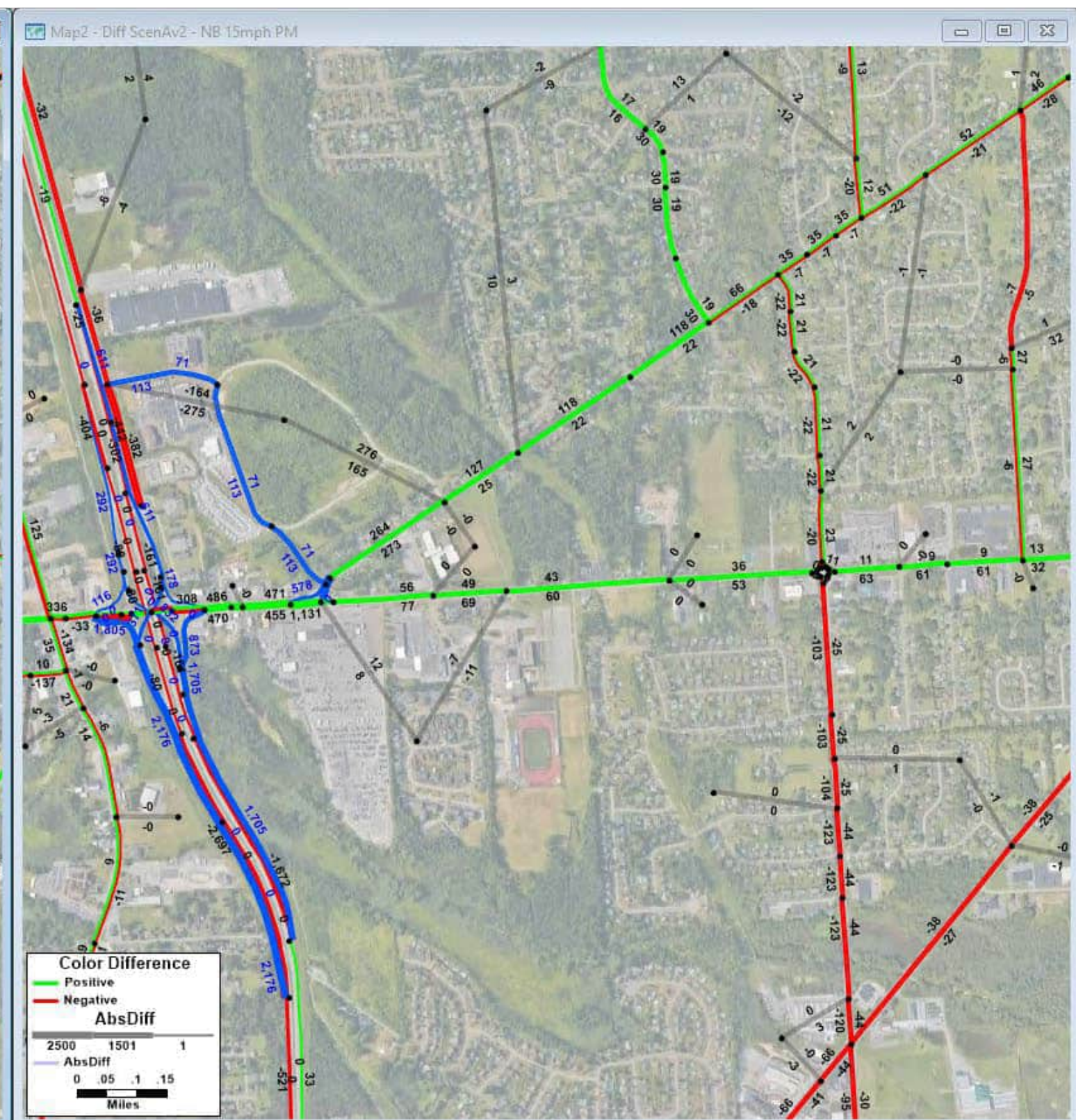




**2040 No Build PM Volumes - 2020 Existing Conditions PM Volumes = Change in PM Volumes**

No Build: All future land use and anticipated transportation projects but no Scenario A network changes

Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

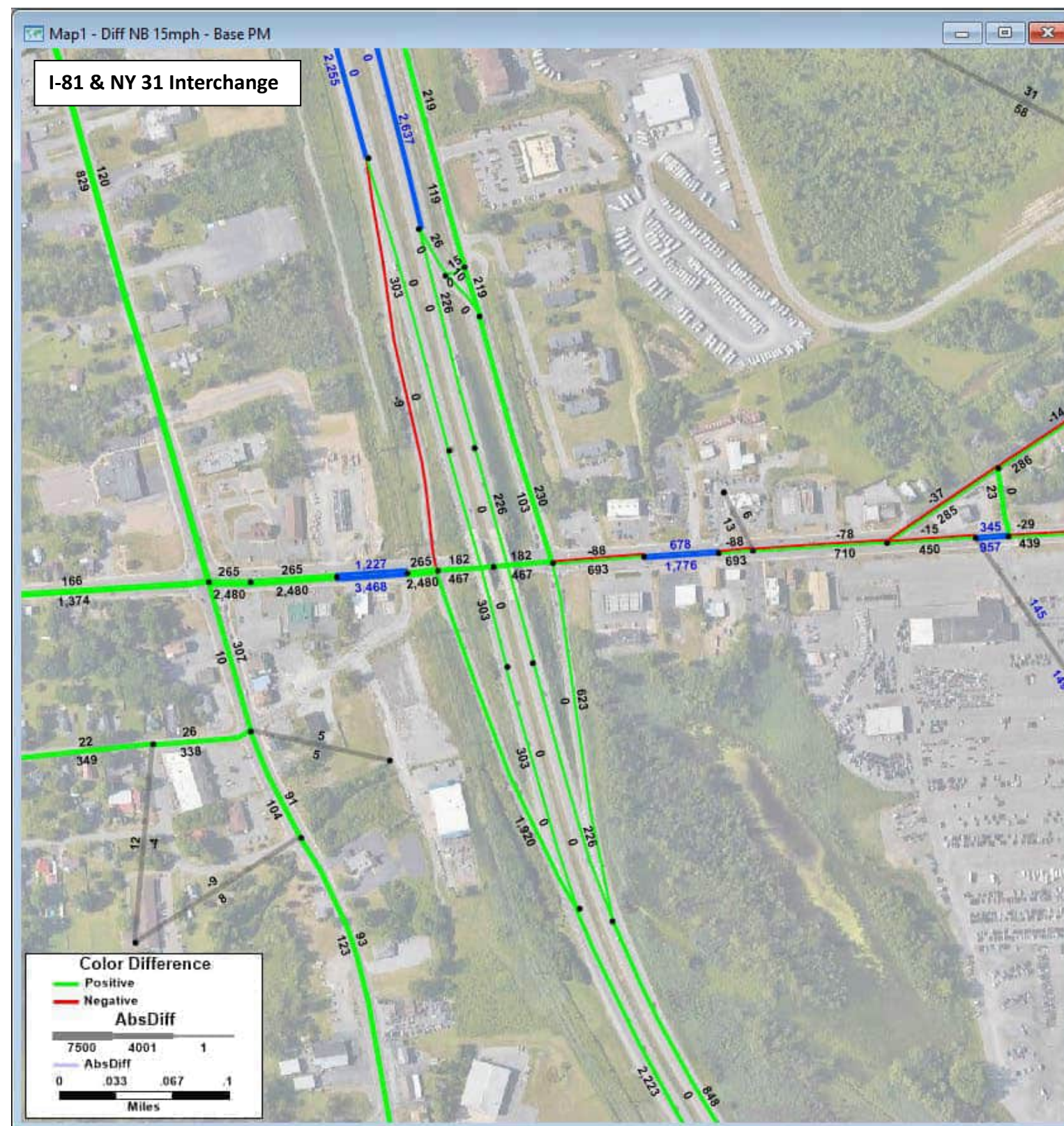


**2040 Scenario A v2 PM Volumes - 2040 No Build PM Volumes = Change in PM Volumes**

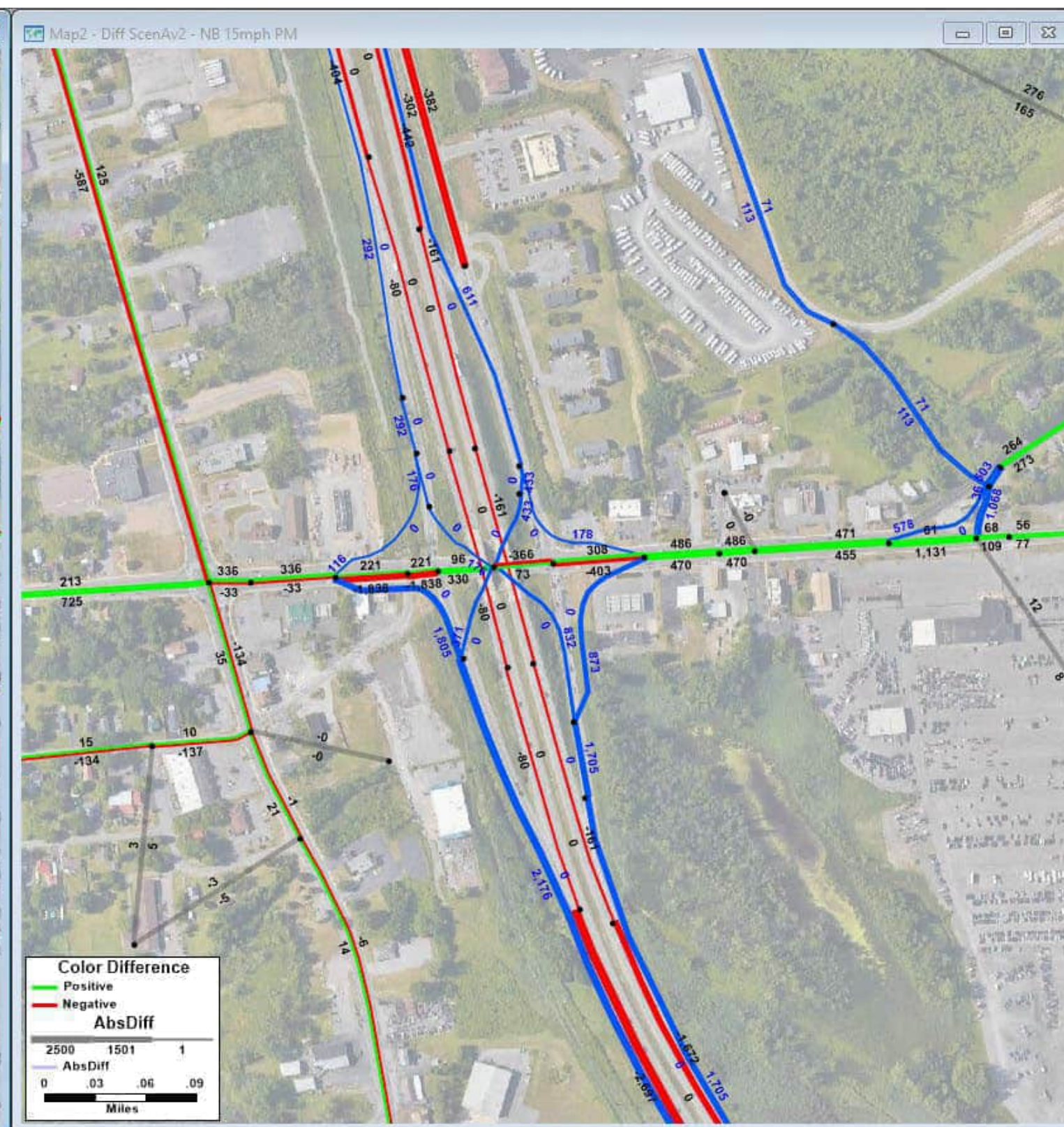
Build: All future land use and anticipated transportation projects with Scenario A network changes

Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



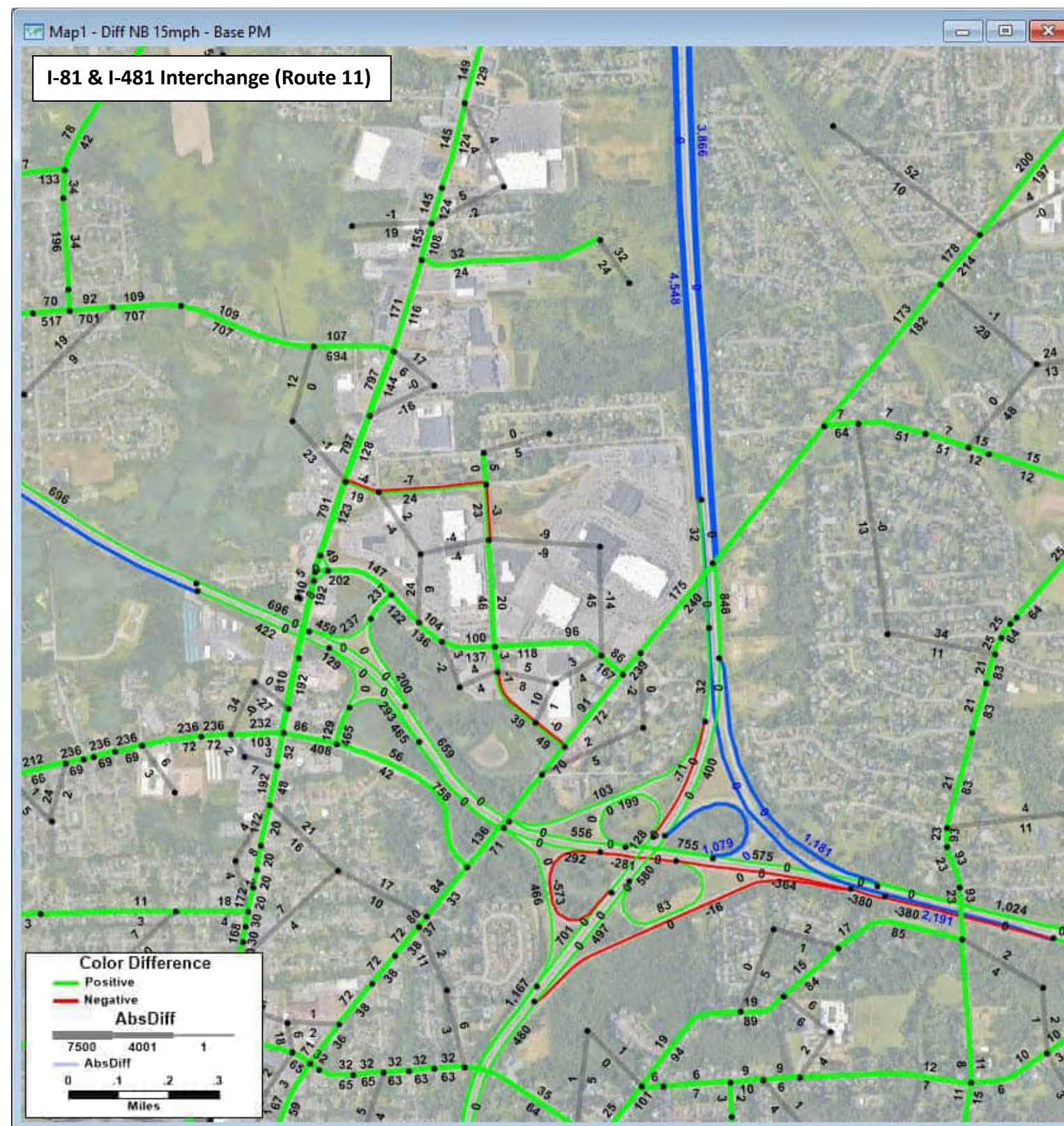


**2040 No Build PM Volumes - 2020 Existing Conditions PM Volumes = Change in PM Volumes**  
No Build: All future land use and anticipated transportation projects but no Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



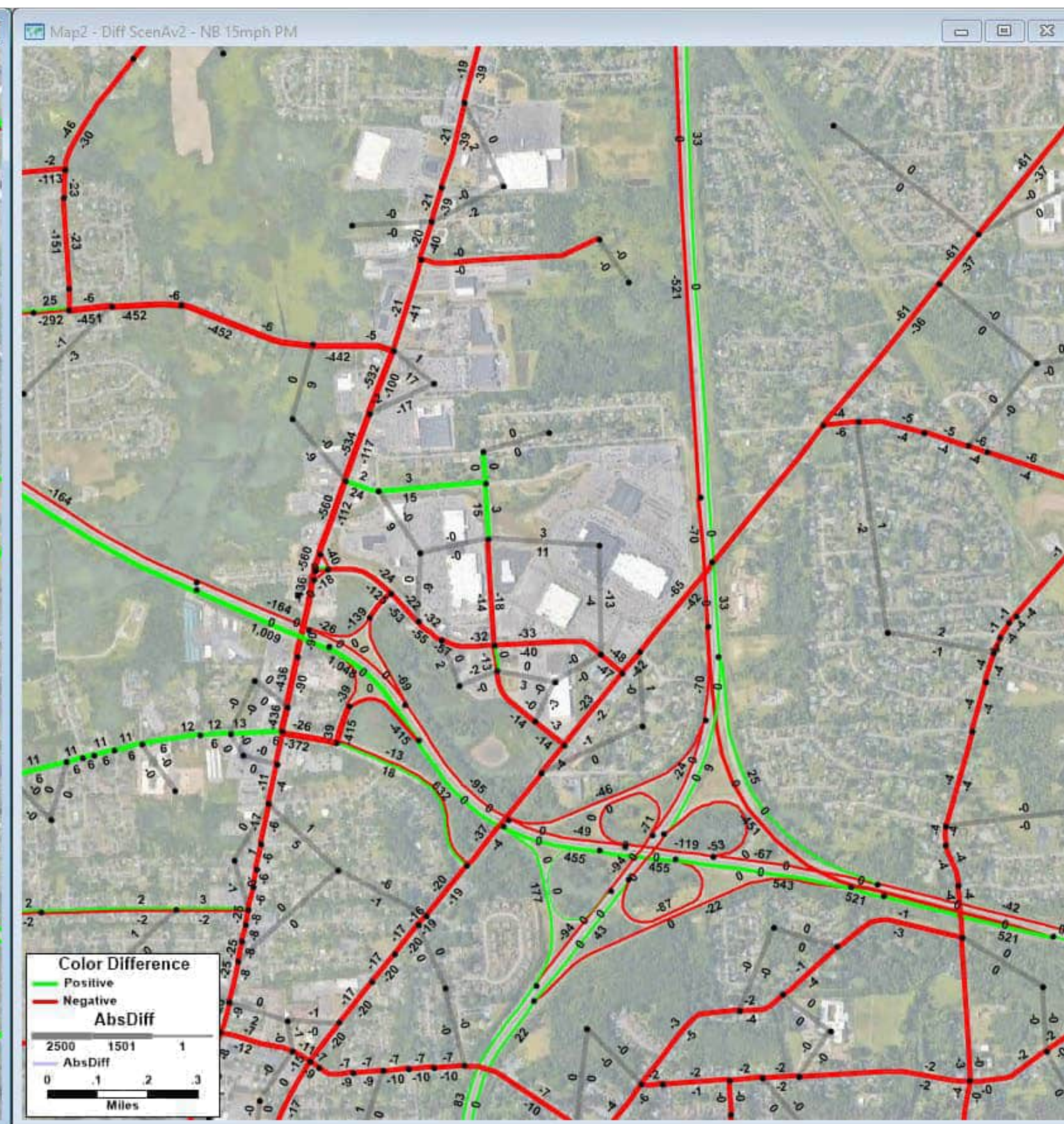
**2040 Scenario A v2 PM Volumes - 2040 No Build PM Volumes = Change in PM Volumes**  
Build: All future land use and anticipated transportation projects with Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)





**2040 No Build PM Volumes - 2020 Existing Conditions PM Volumes = Change in PM Volumes**

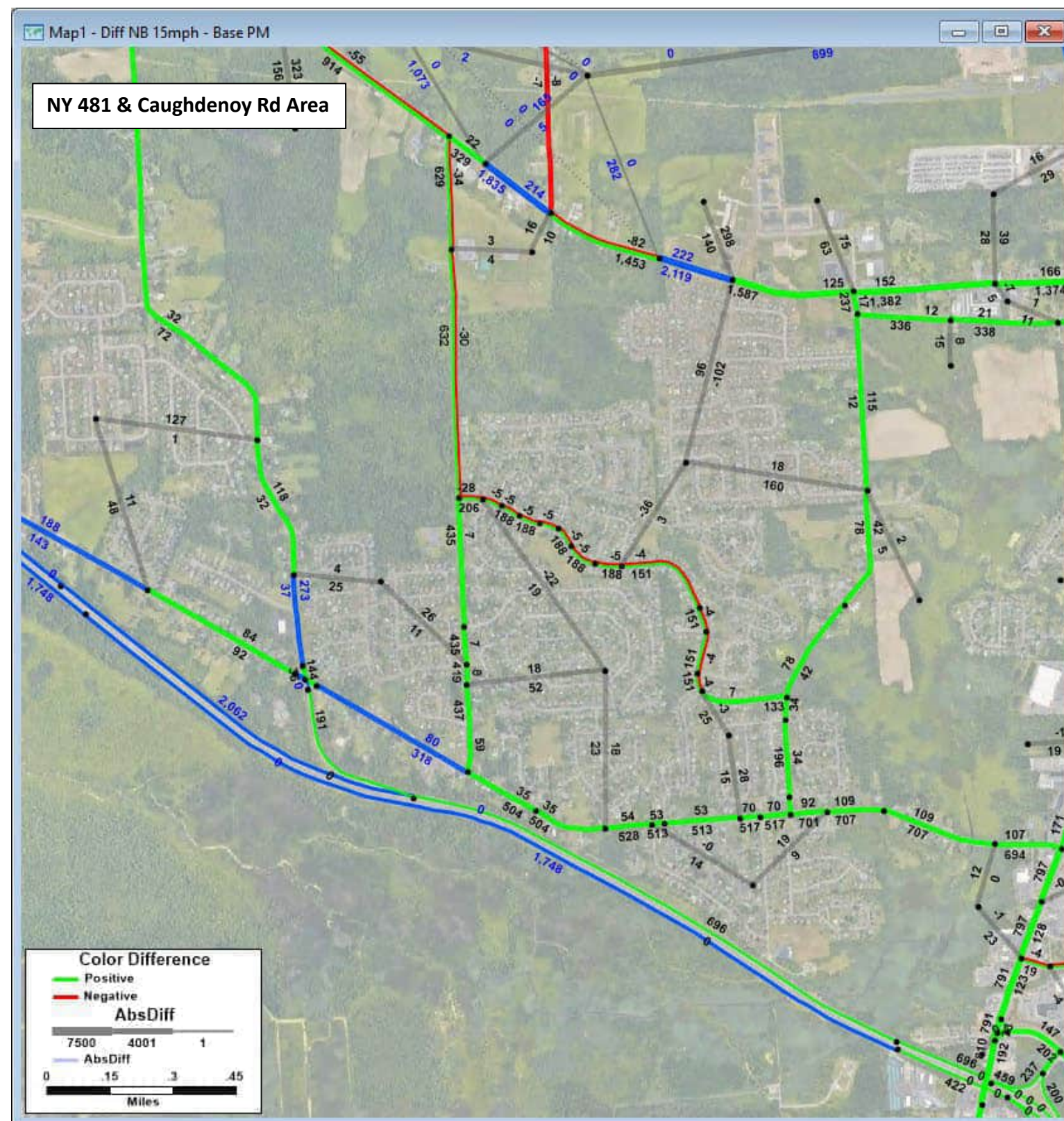
No Build: All future land use and anticipated transportation projects but no Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



**2040 Scenario A v2 PM Volumes - 2040 No Build PM Volumes = Change in PM Volumes**

Build: All future land use and anticipated transportation projects with Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

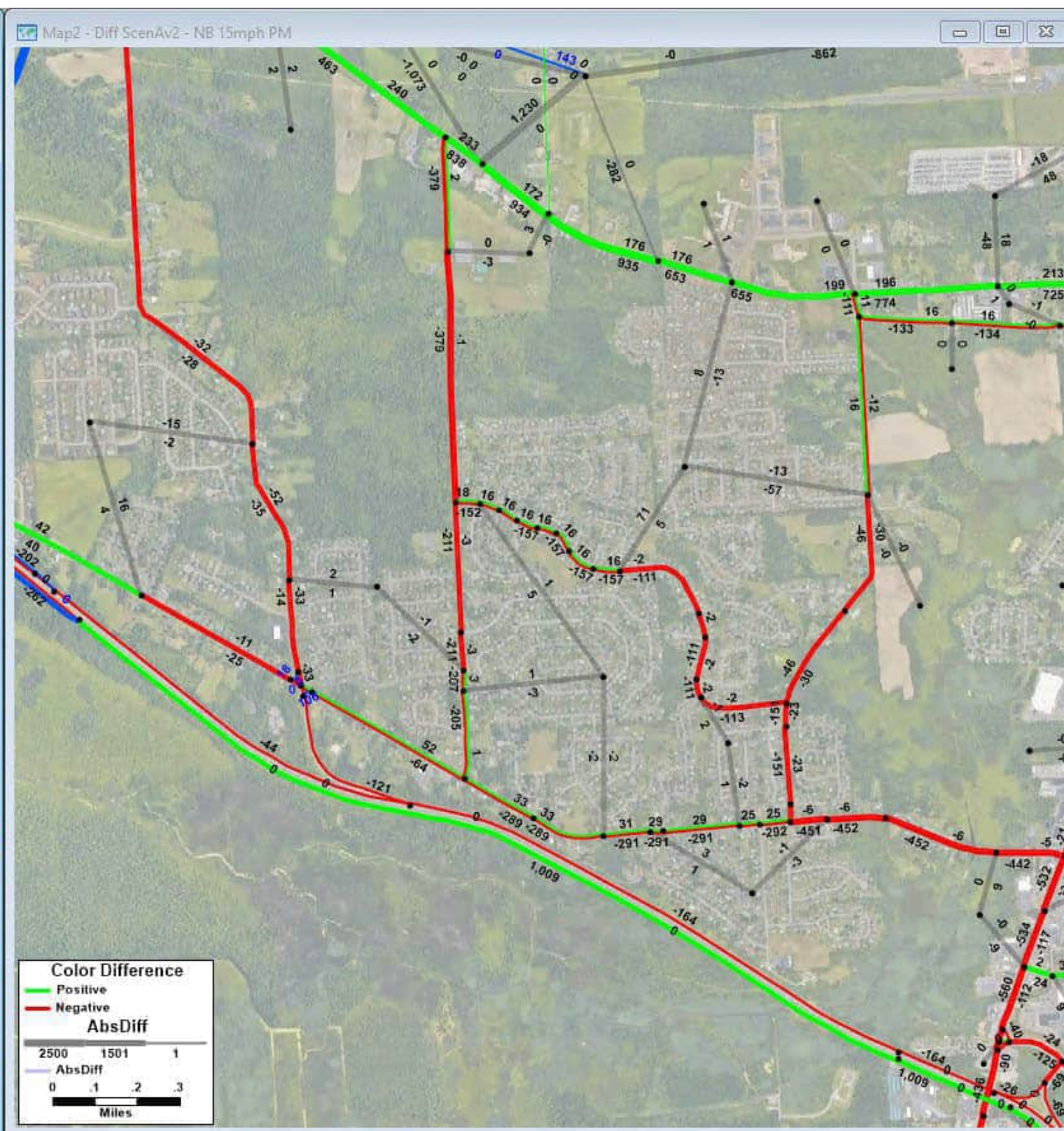




2040 No Build PM Volumes - 2020 Existing Conditions PM Volumes = Change in PM Volumes

No Build: All future land use and anticipated transportation projects but no Scenario A network changes

Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



2040 Scenario A v2 PM Volumes - 2040 No Build PM Volumes = Change in PM Volumes

Build: All future land use and anticipated transportation projects with Scenario A network changes

Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)





**2040 No Build PM Volumes - 2020 Existing Conditions PM Volumes = Change in PM Volumes**

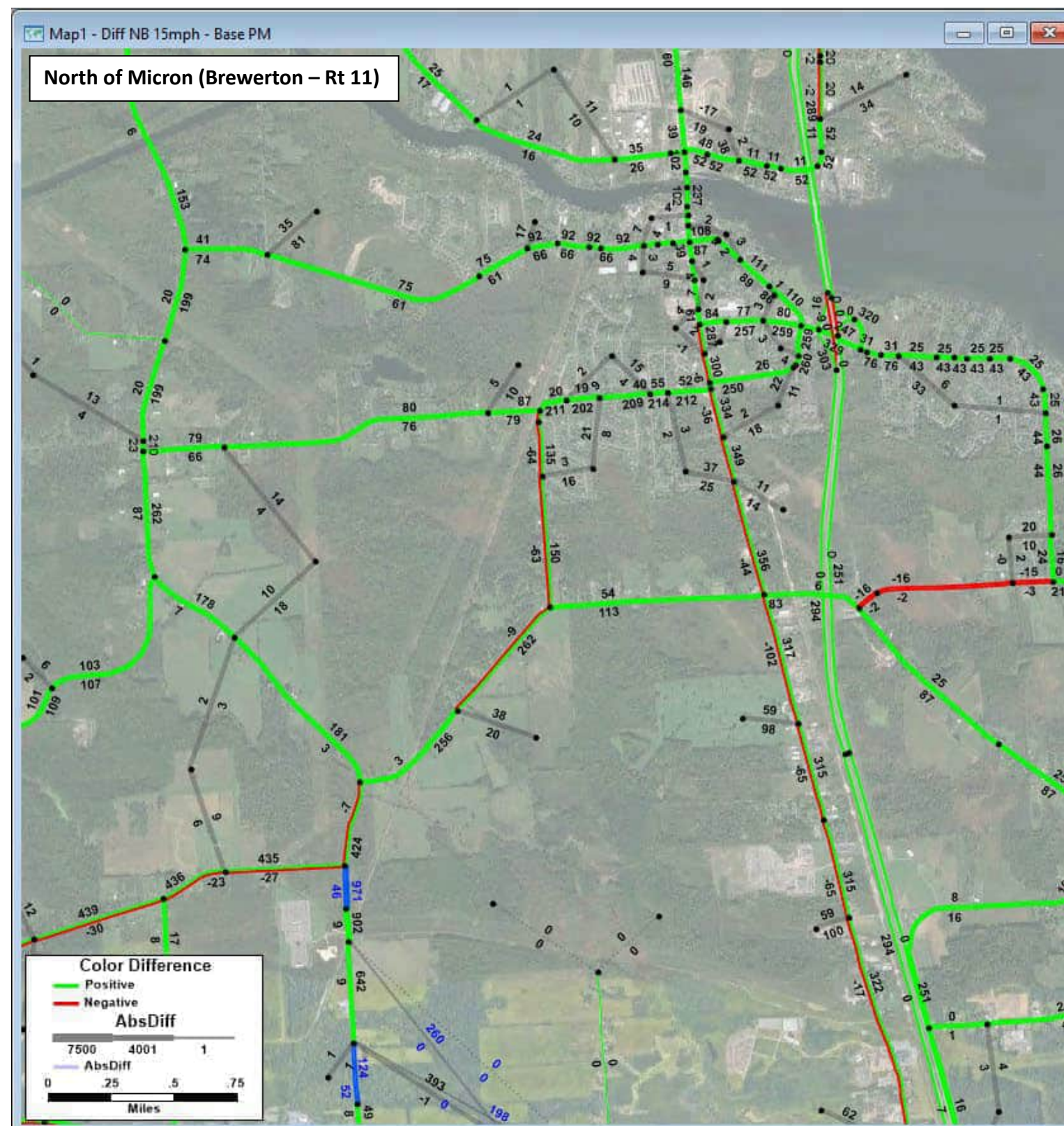
No Build: All future land use and anticipated transportation projects but no Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



**2040 Scenario A v2 PM Volumes - 2040 No Build PM Volumes = Change in PM Volumes**

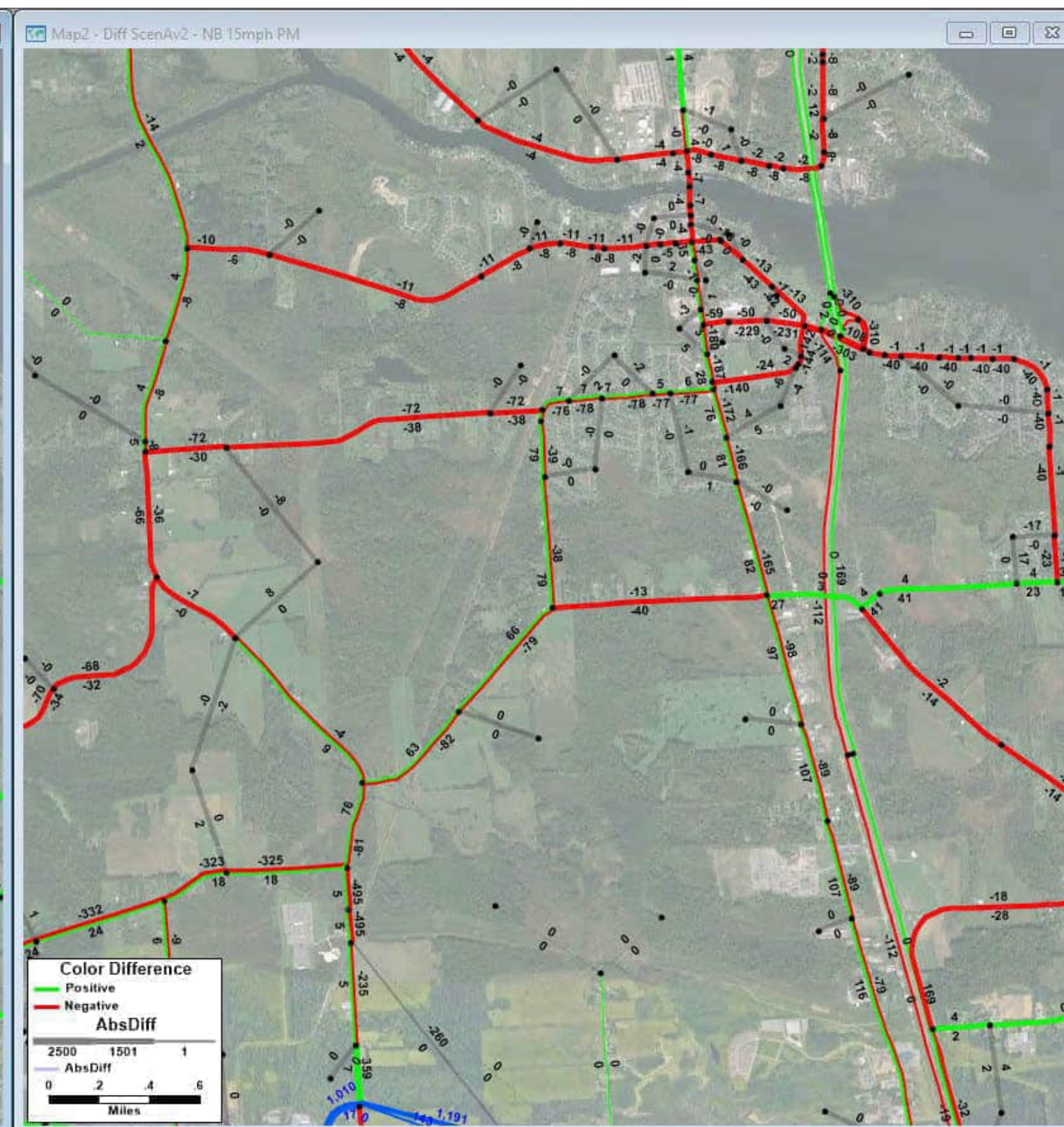
Build: All future land use and anticipated transportation projects with Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)





**2040 No Build PM Volumes - 2020 Existing Conditions PM Volumes = Change in PM Volumes**

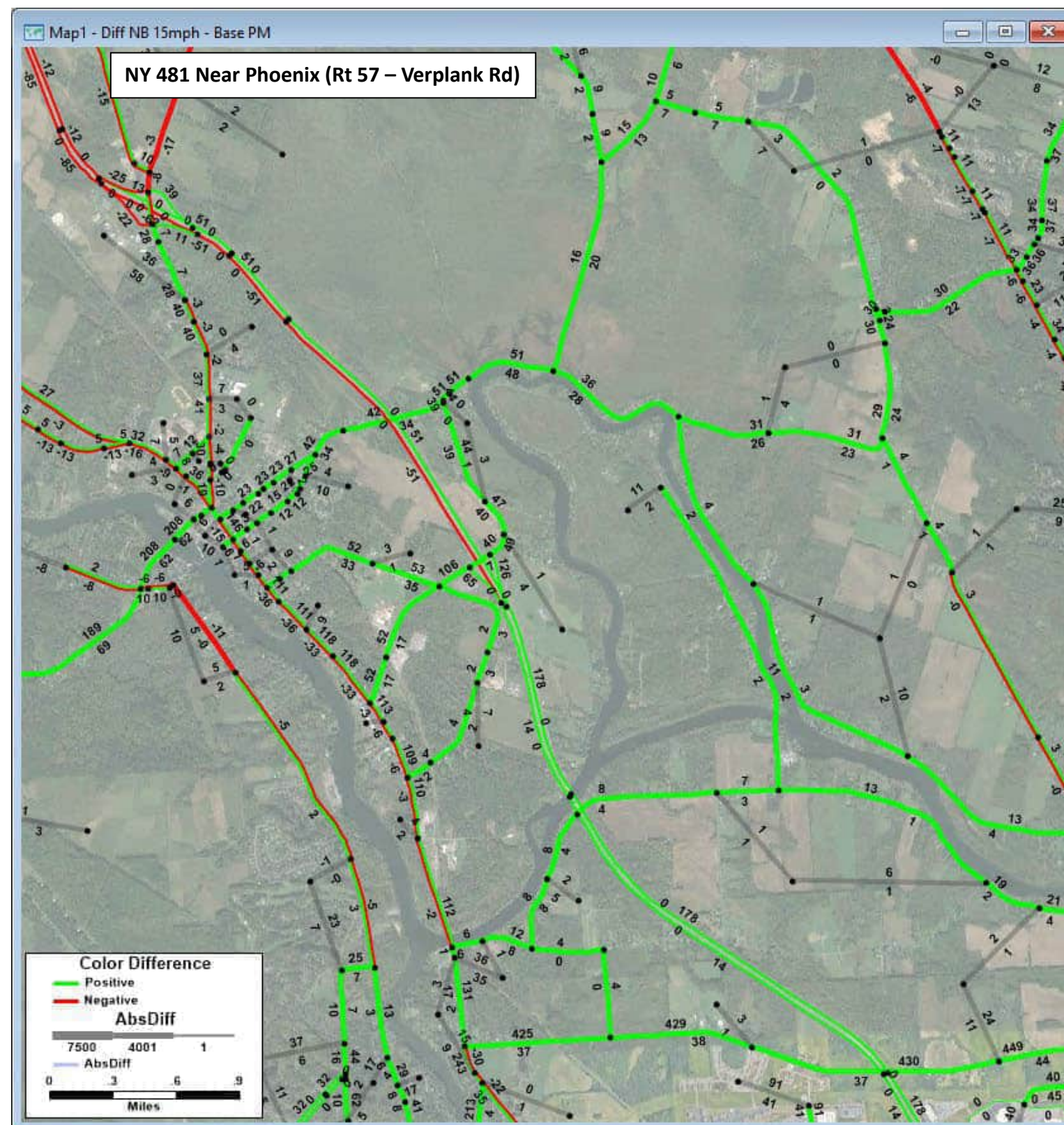
No Build: All future land use and anticipated transportation projects but no Scenario A network changes  
Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



**2040 Scenario A v2 PM Volumes - 2040 No Build PM Volumes = Change in PM Volumes**

Build: All future land use and anticipated transportation projects with Scenario A network changes  
Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

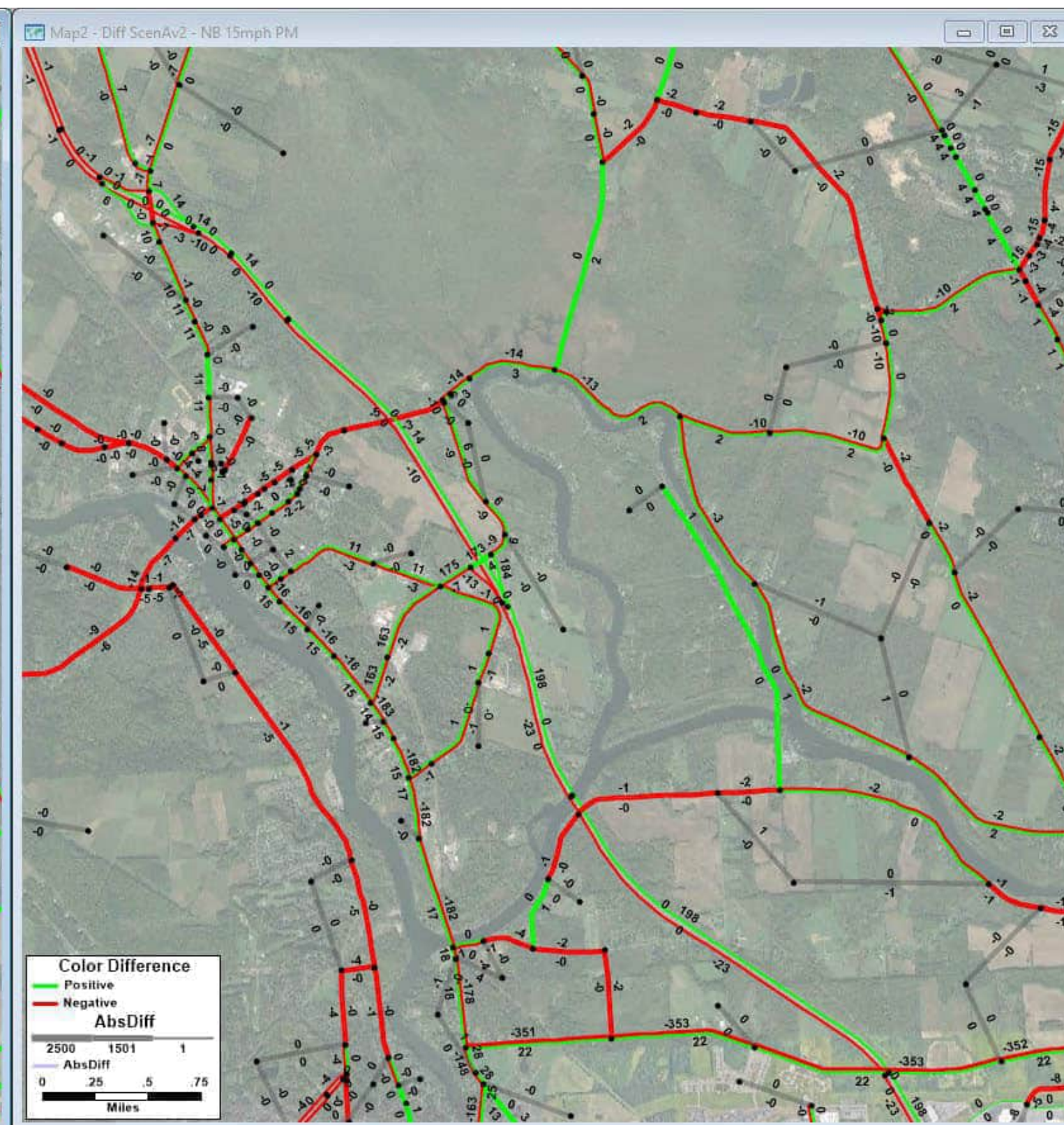




**2040 No Build PM Volumes - 2020 Existing Conditions PM Volumes = Change in PM Volumes**

No Build: All future land use and anticipated transportation projects but no Scenario A network changes

Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

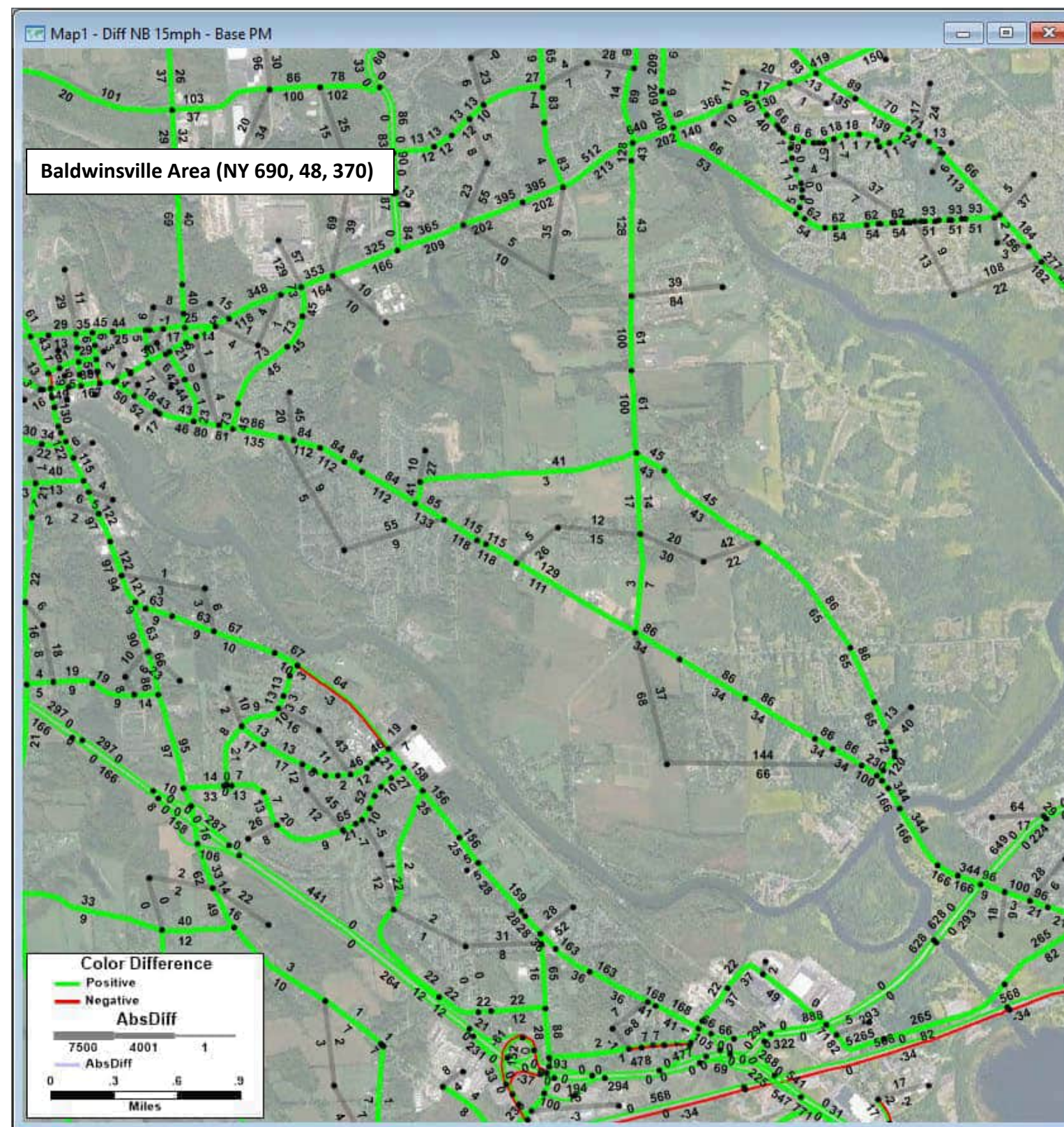


**2040 Scenario A v2 PM Volumes - 2040 No Build PM Volumes = Change in PM Volumes**

Build: All future land use and anticipated transportation projects with Scenario A network changes

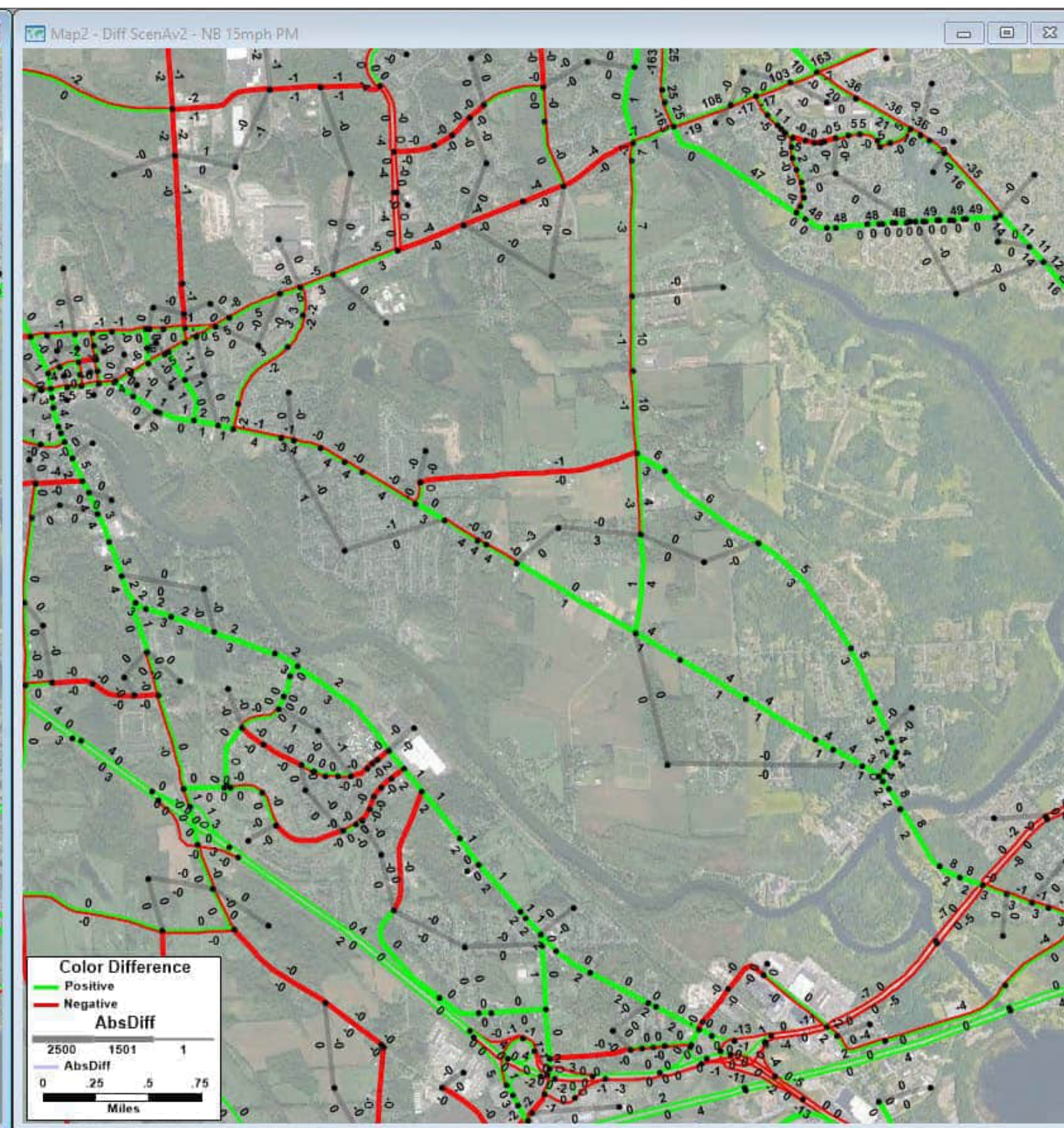
Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)





**2040 No Build PM Volumes - 2020 Existing Conditions PM Volumes = Change in PM Volumes**

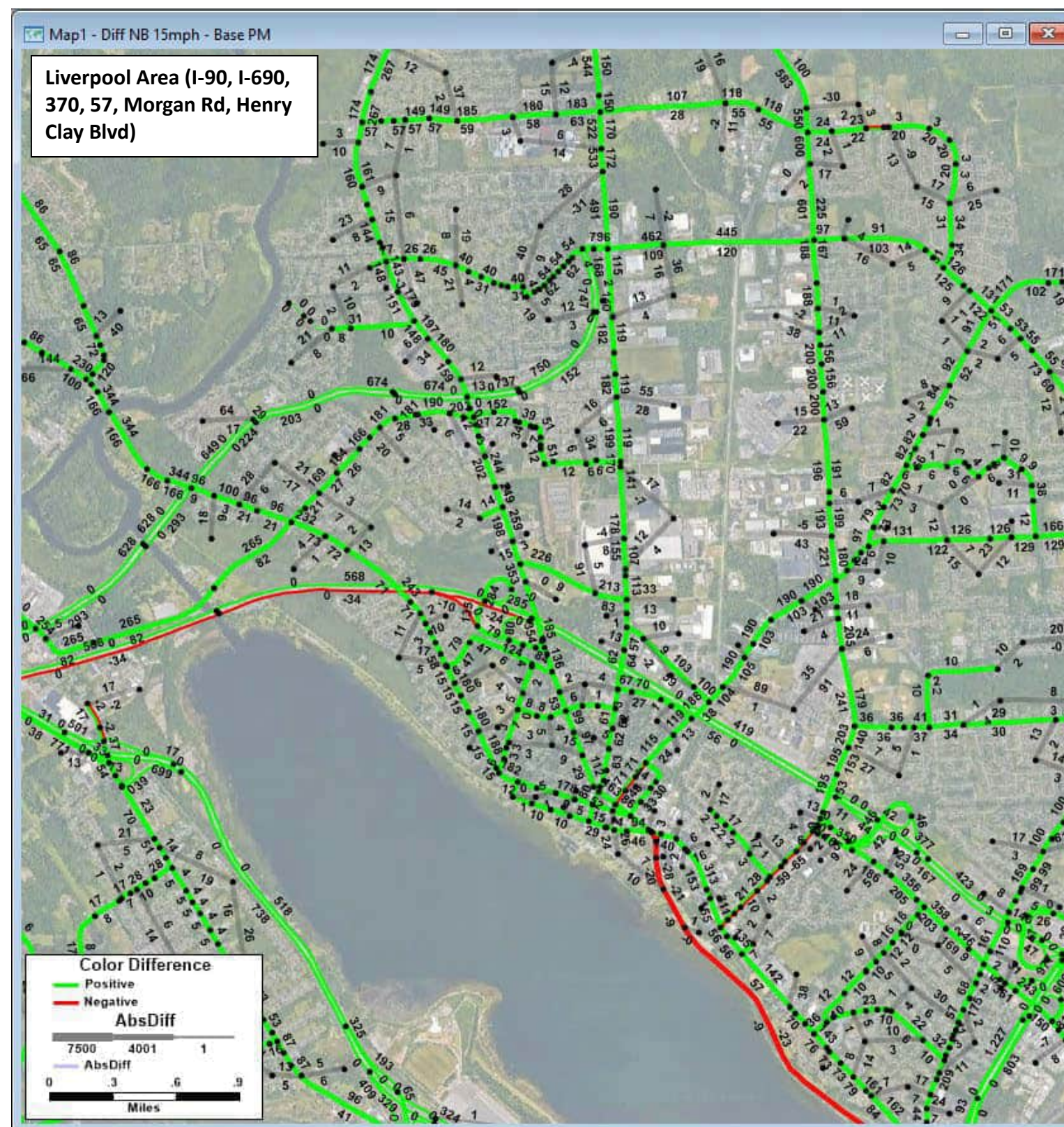
No Build: All future land use and anticipated transportation projects but no Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



**2040 Scenario A v2 PM Volumes - 2040 No Build PM Volumes = Change in PM Volumes**

Build: All future land use and anticipated transportation projects with Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

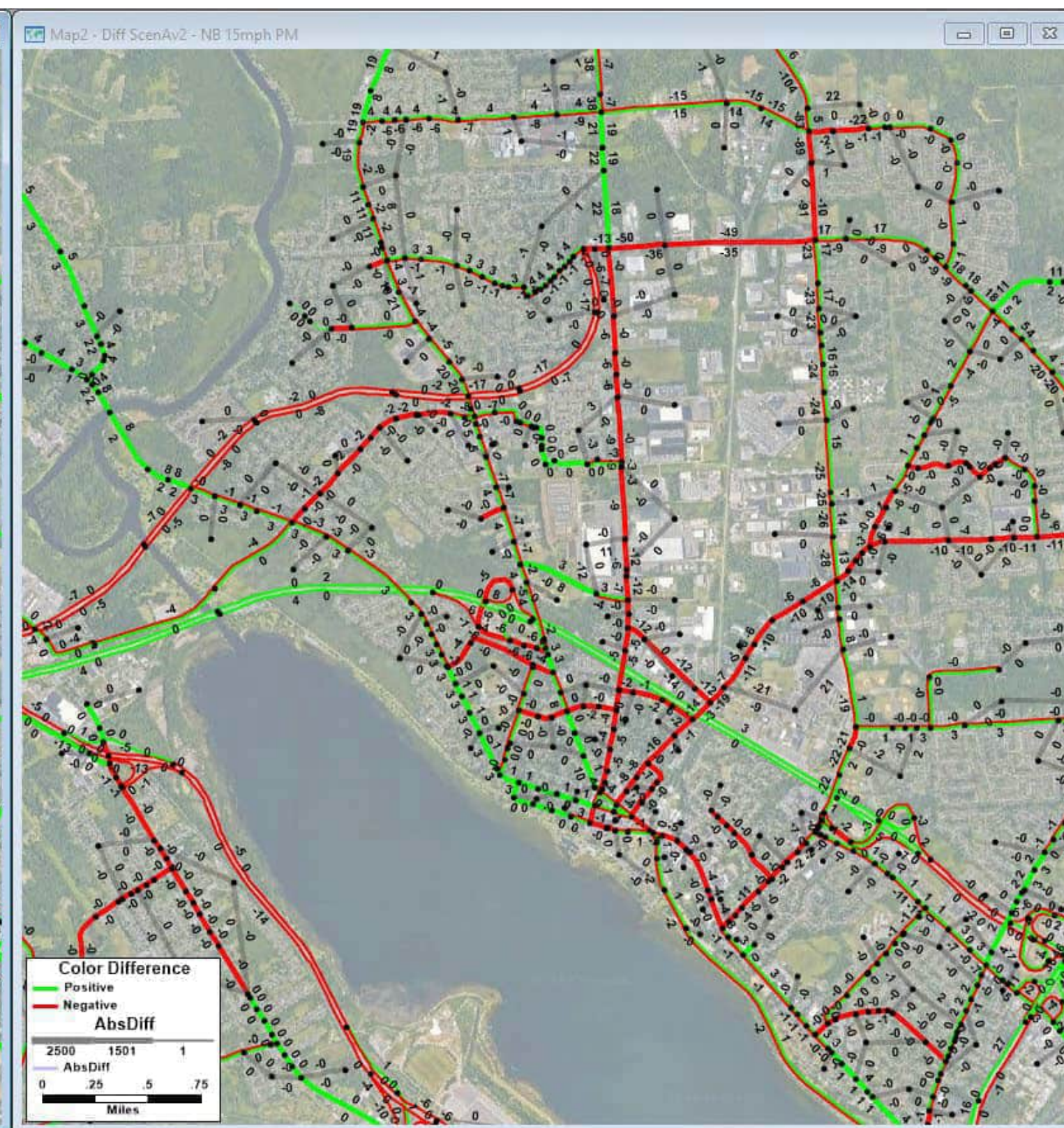




**2040 No Build PM Volumes - 2020 Existing Conditions PM Volumes = Change in PM Volumes**

No Build: All future land use and anticipated transportation projects but no Scenario A network changes

Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

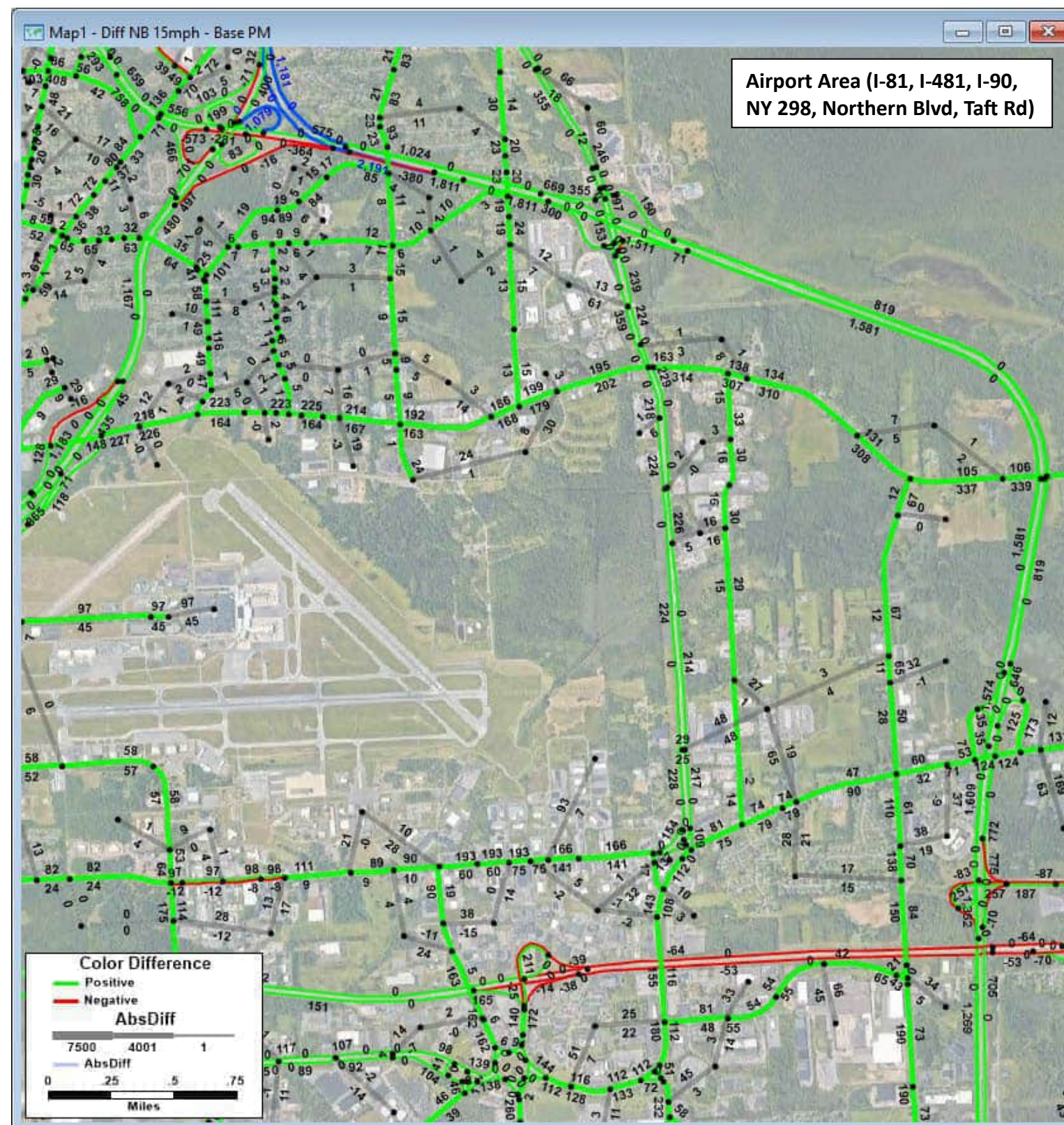


**2040 Scenario A v2 PM Volumes - 2040 No Build PM Volumes = Change in PM Volumes**

Build: All future land use and anticipated transportation projects with Scenario A network changes

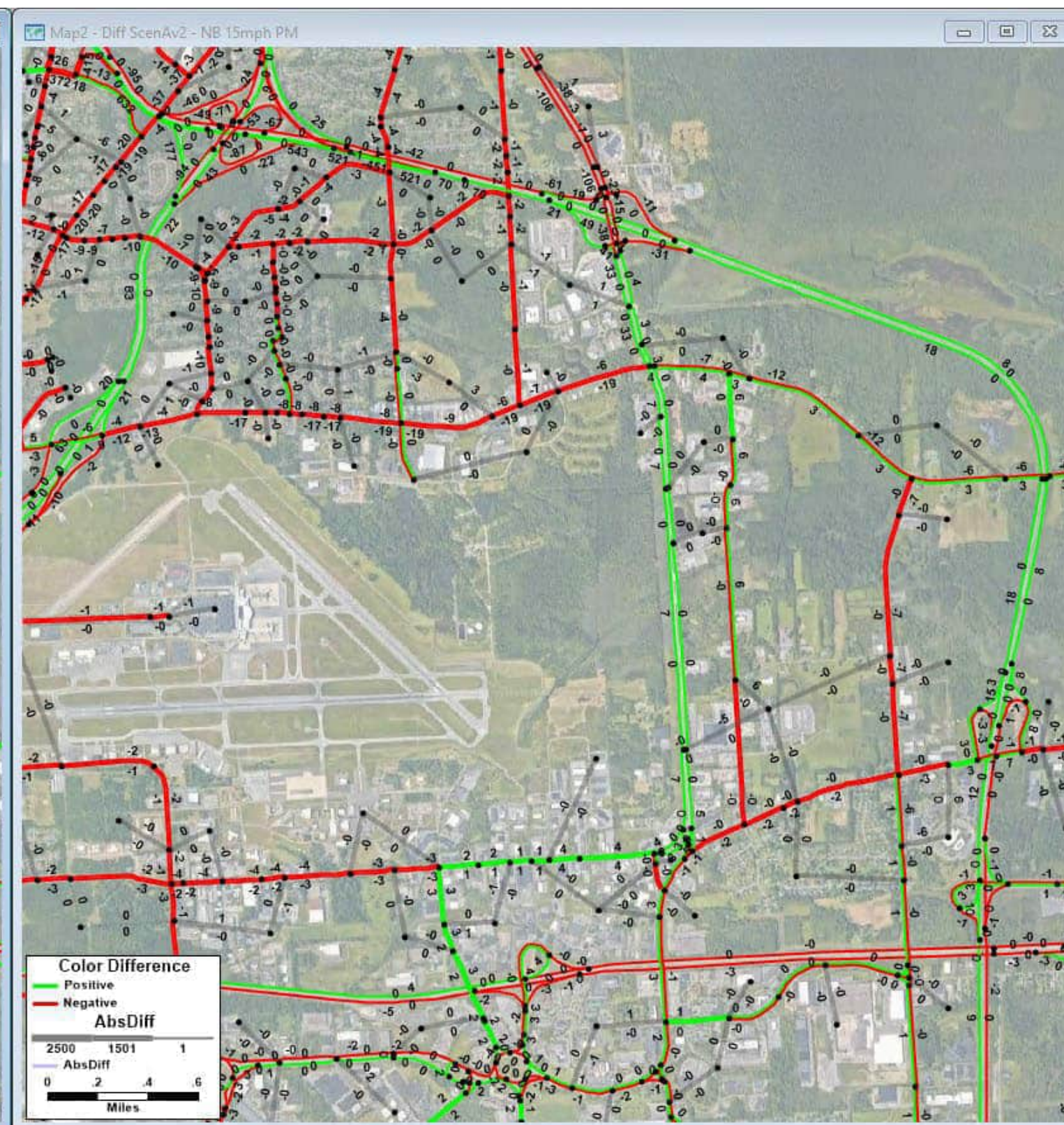
Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)





**2040 No Build PM Volumes - 2020 Existing Conditions PM Volumes = Change in PM Volumes**

No Build: All future land use and anticipated transportation projects but no Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



**2040 Scenario A v2 PM Volumes - 2040 No Build PM Volumes = Change in PM Volumes**

Build: All future land use and anticipated transportation projects with Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

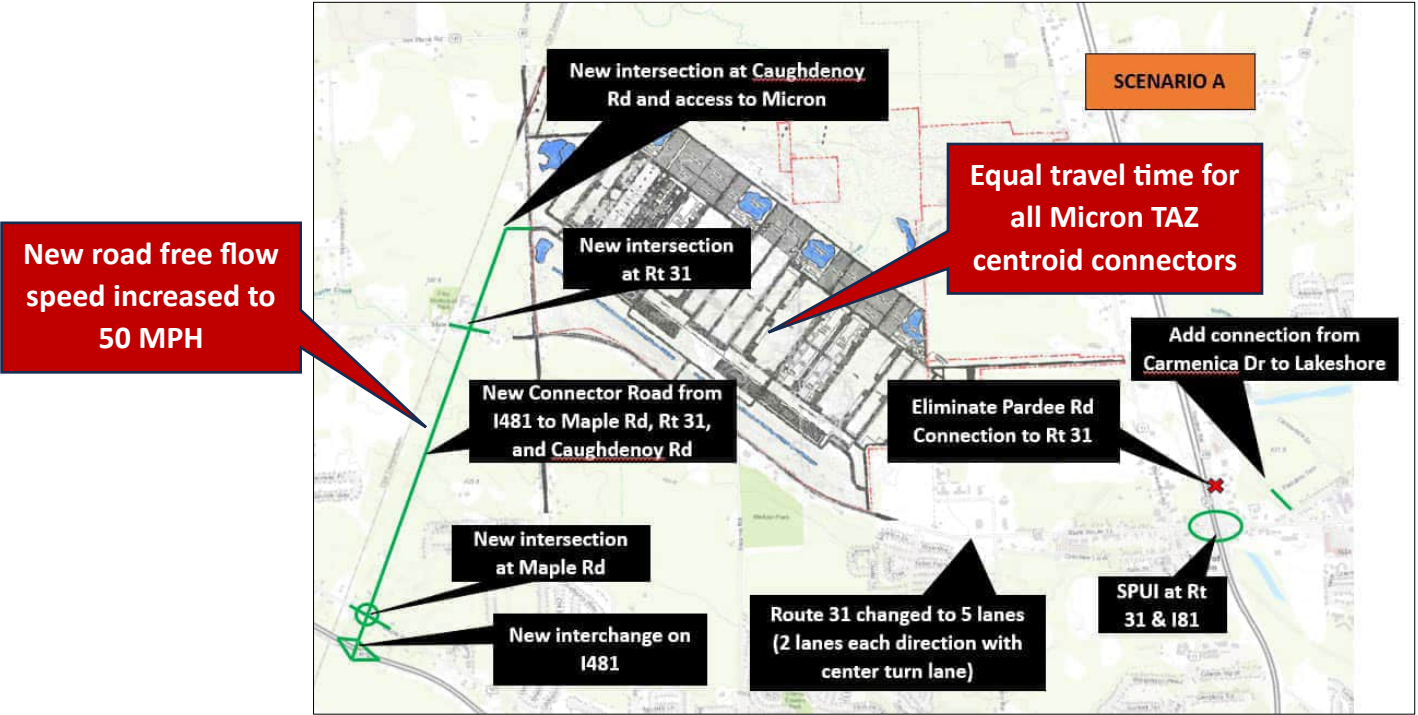


SMTC Travel Demand Model Results: **Scenario A v3** (Scenario A v2 and Equal Travel Time Micron Centroid Connectors) – **AM PEAK HOUR CHANGE IN VOLUMES**

The graphic to the right shows the general assumptions for **Scenario A v3** →

Notes:

- All 2040 scenarios include projected future land use growth (including Micron)
- No Build in this document refers to no Micron related road network changes
- **RED** callouts note the revisions made to Scenario A



The graphic to the right is an example of what is included in this document →

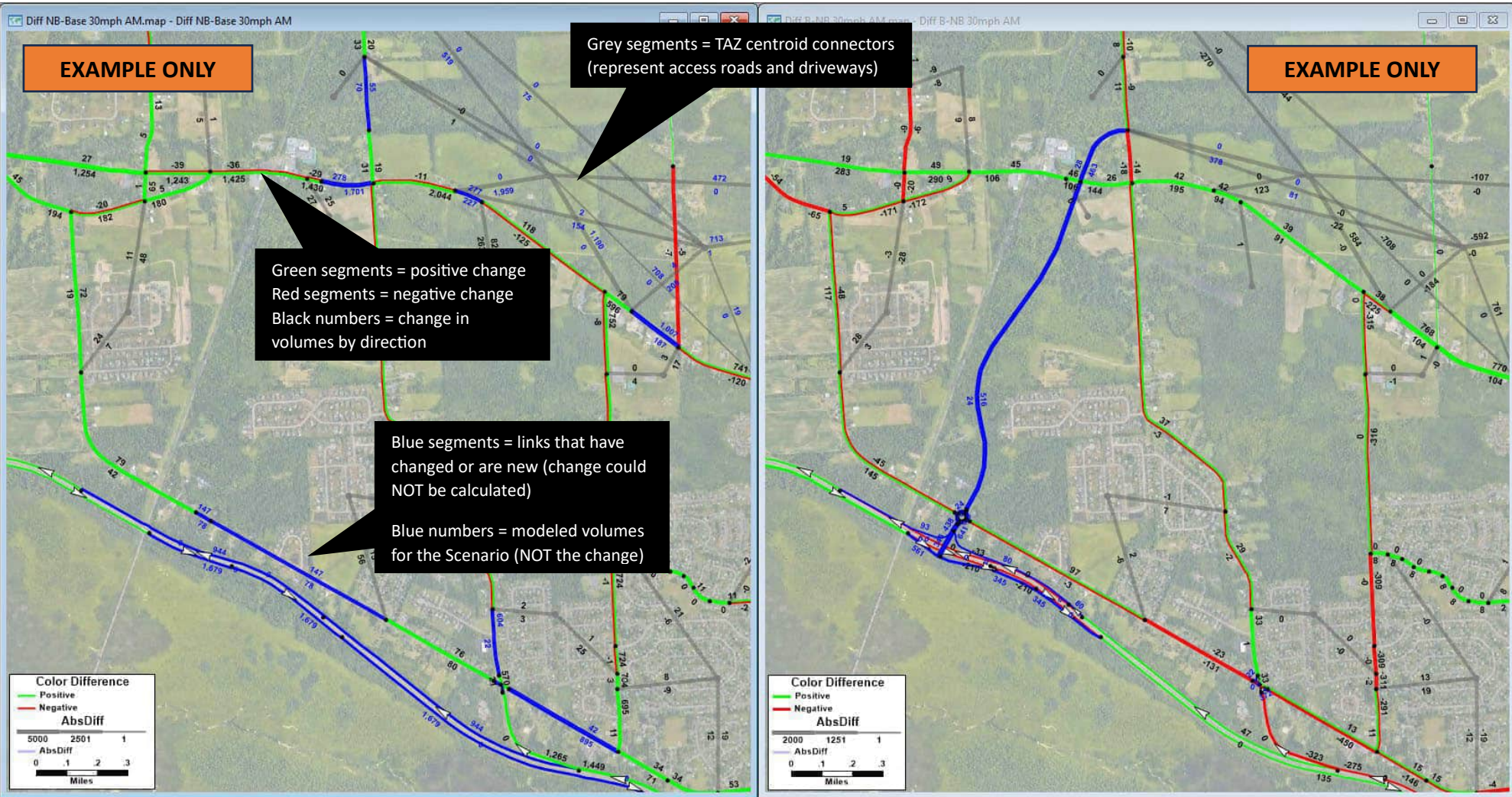
The map on the left displays the change in **AM** volumes between the 2020 existing conditions base model to the 2040 No Build (**2040 NB AM Volumes less 2020 AM volumes**). No Build in this case refers to no network improvements, the build future land use conditions are included (including Micron).

The map on the right displays the change in **AM** volumes between the 2040 No Build to the 2040 Scenario "X" Build (**2040 Scenario "X" Build AM Volumes less 2040 NB AM volumes**).

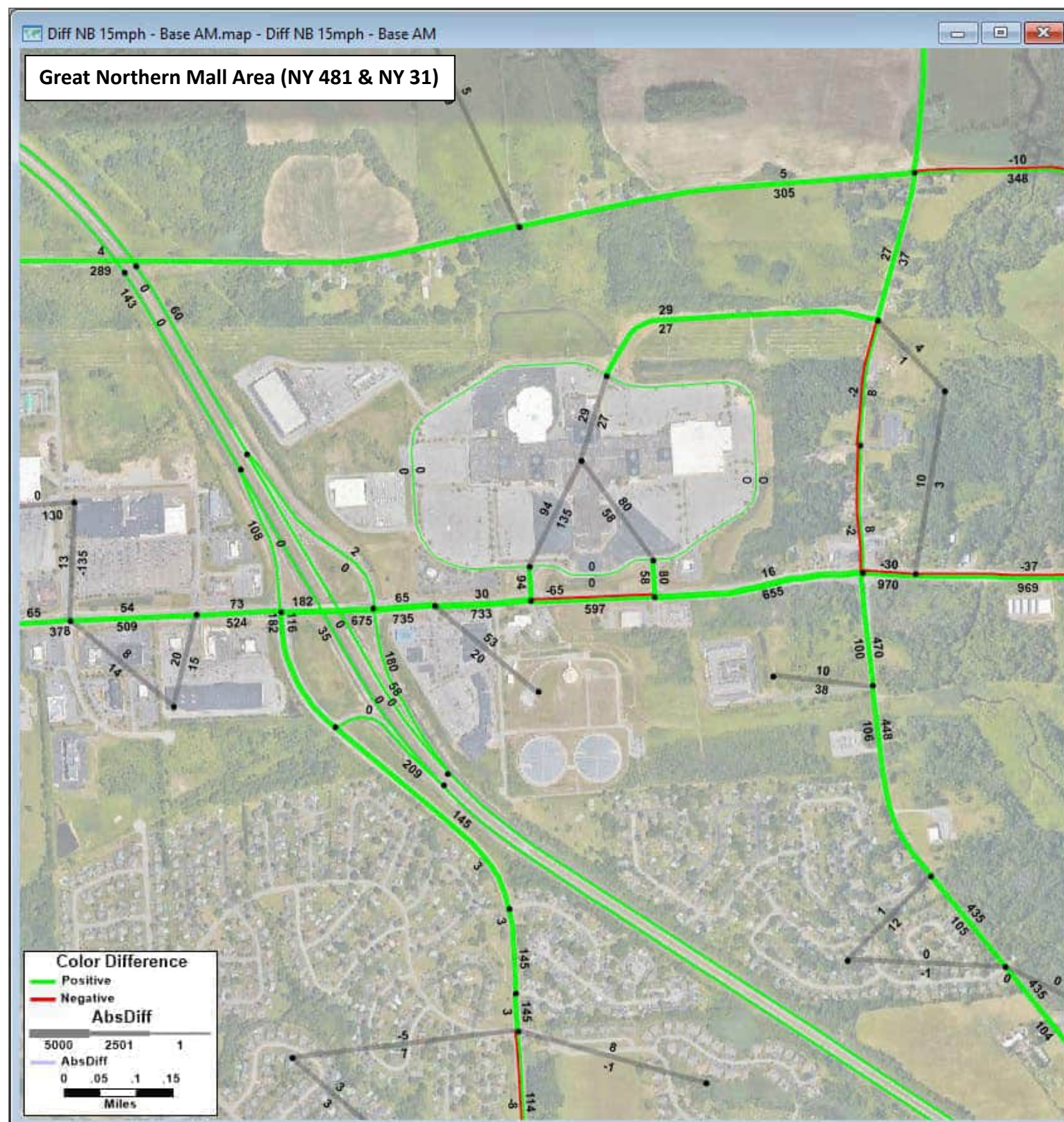
MAP NOTES:

- **Green** segments = positive change between identified scenarios
- **Red** segments = negative change between identified scenarios
- **Black numbers** = change in volumes by direction
- **Blue** segments = links that have changed or are new for that scenario therefore a change can **NOT** be calculated
- **Blue numbers** = modeled volume by direction on that segment for that scenario (change could NOT be calculated for that link)
- **Gray** segments = TAZ centroid connectors (general representation of access roads and driveways)

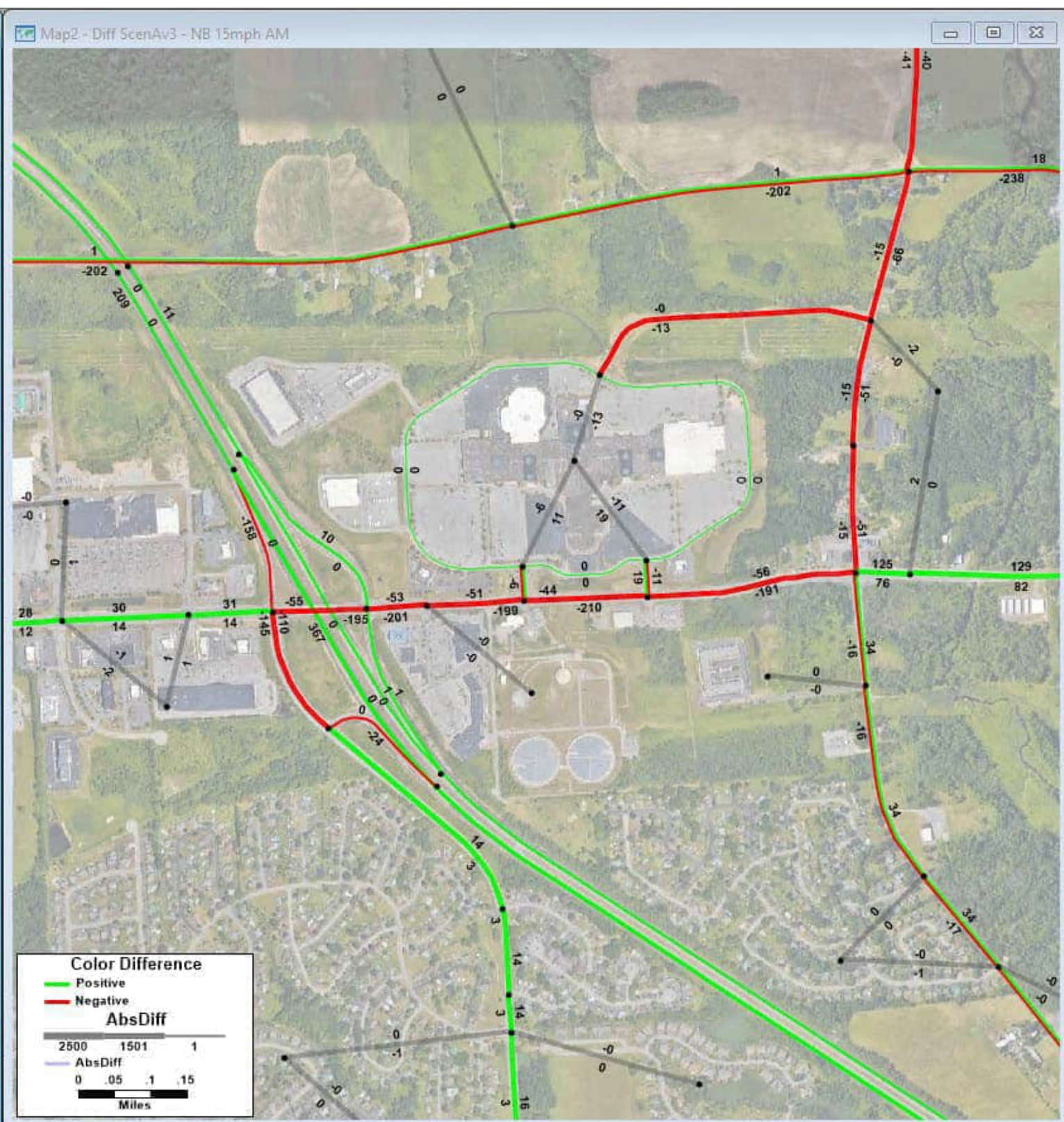
To get total future volume on a segment add up the numbers from both maps and then add that to existing traffic counts.





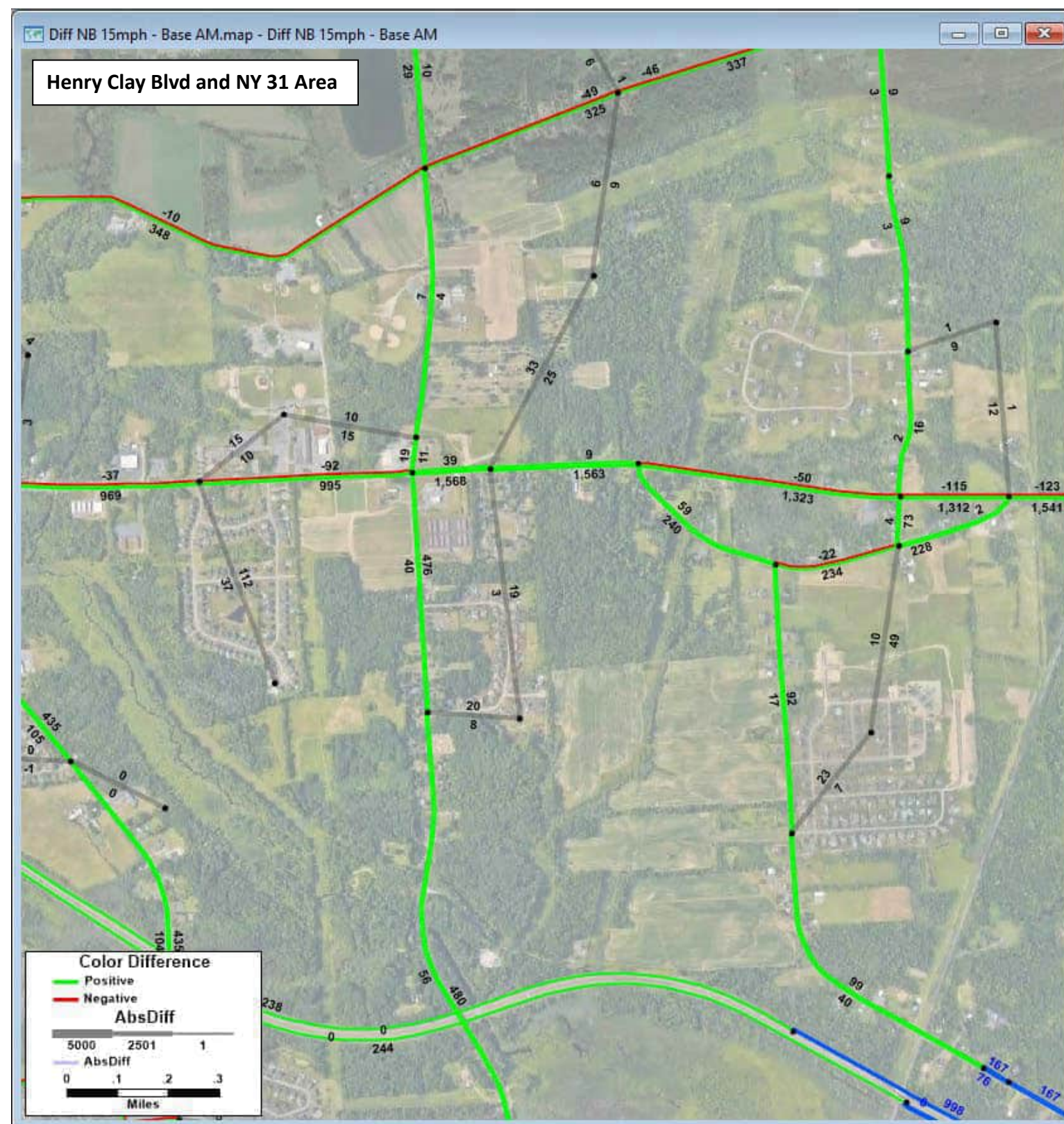


**2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes**  
No Build: All future land use and anticipated transportation projects but no Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



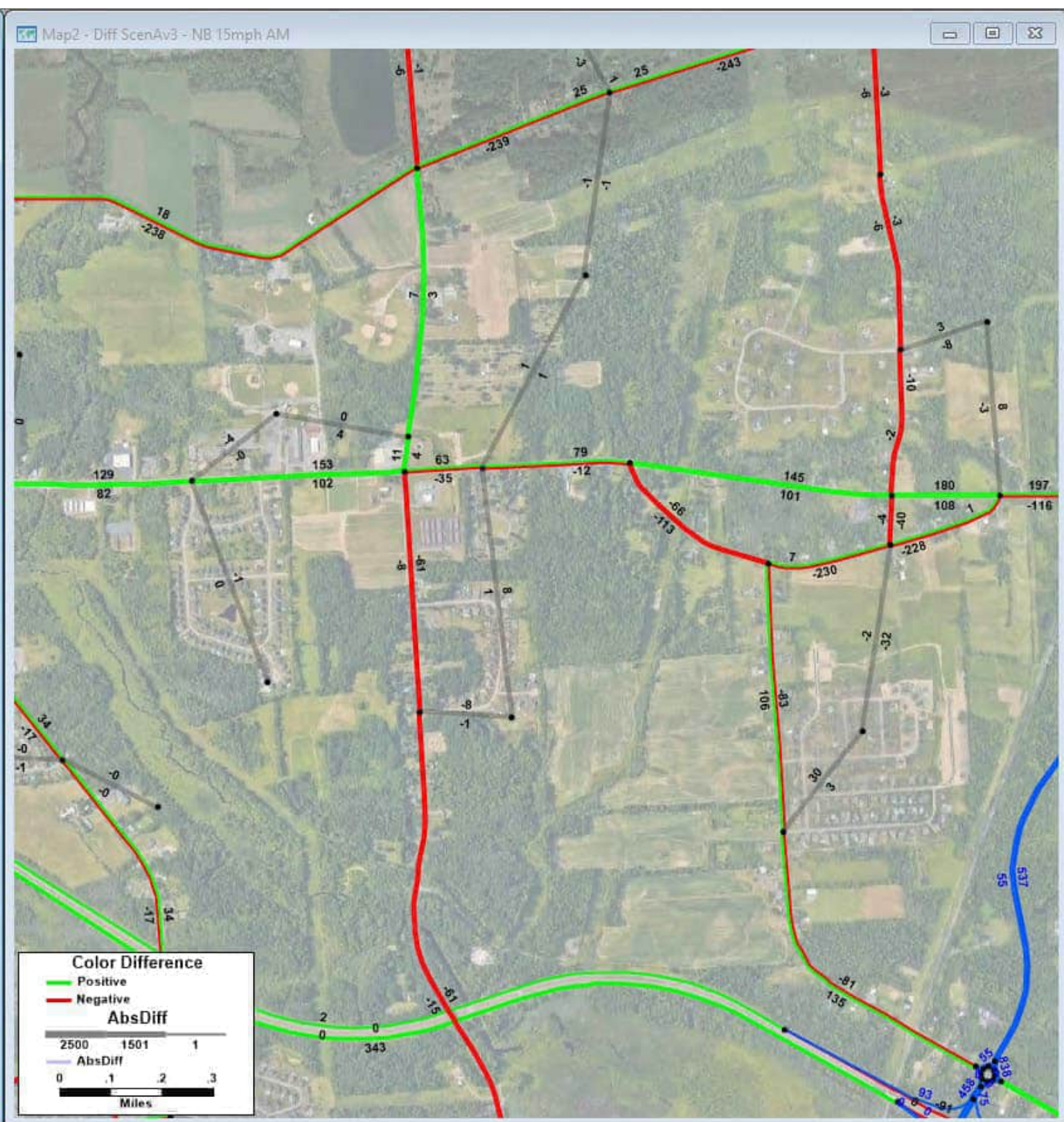
**2040 Scenario A v3 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes**  
Build: All future land use and anticipated transportation projects with Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)





**2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes**

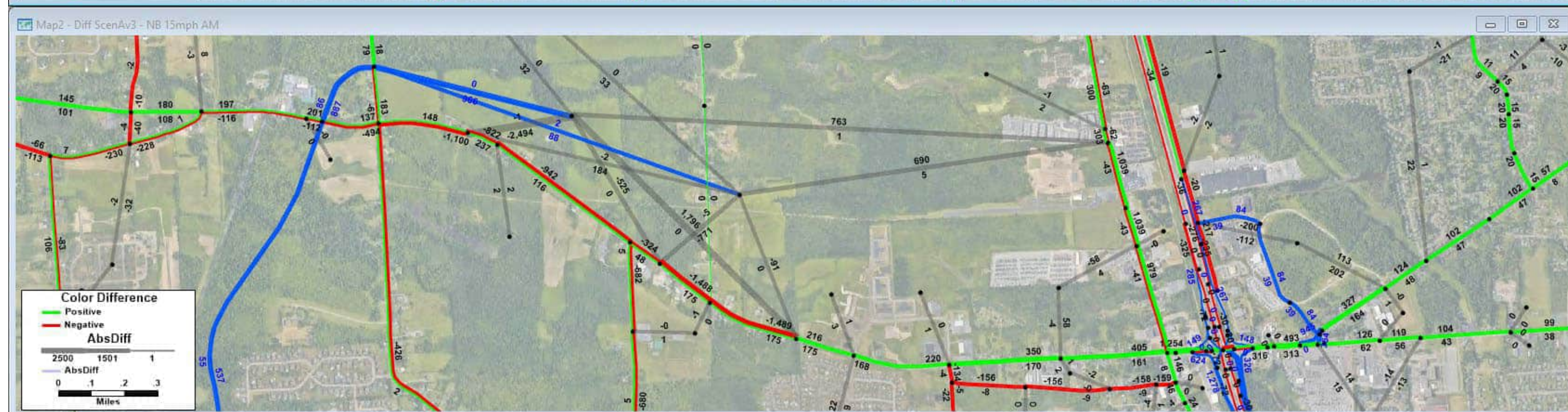
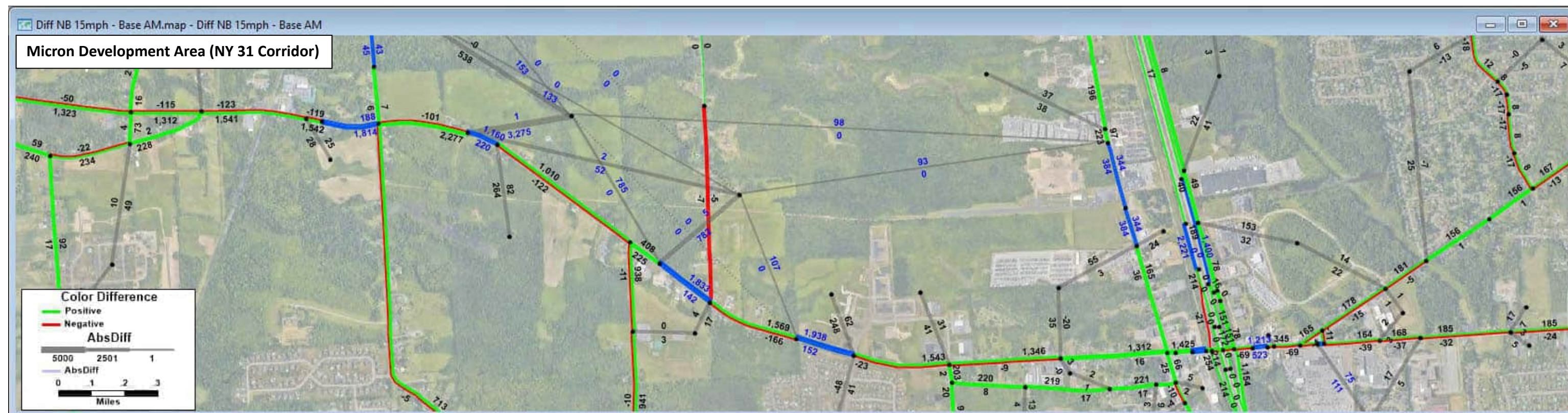
No Build: All future land use and anticipated transportation projects but no Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



**2040 Scenario A v3 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes**

Build: All future land use and anticipated transportation projects with Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

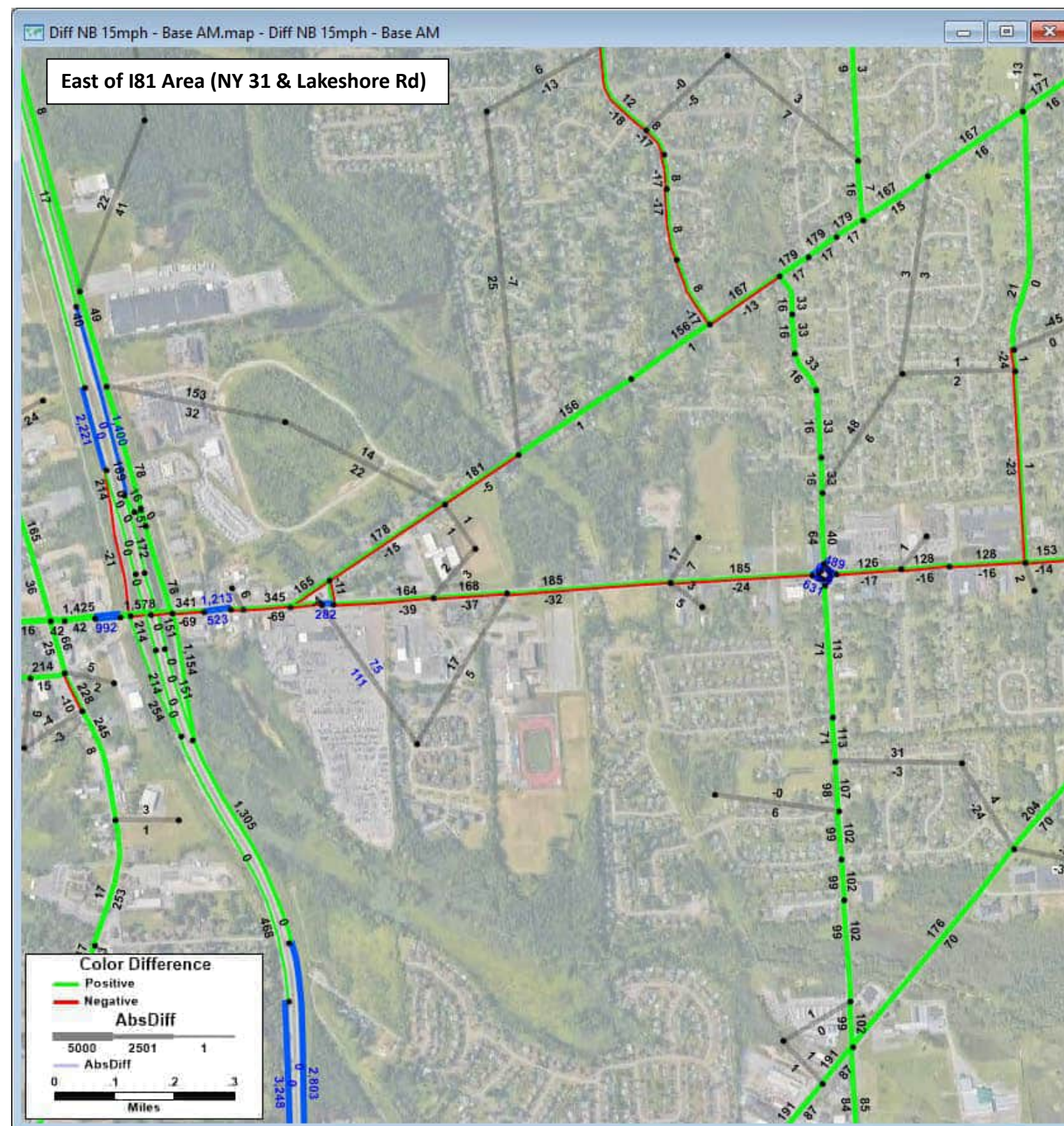




**(TOP MAP) 2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes**  
No Build: All future land use and anticipated transportation projects but no Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

**(Bottom MAP) 2040 Scenario A v3 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes**  
Build: All future land use and anticipated transportation projects with Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

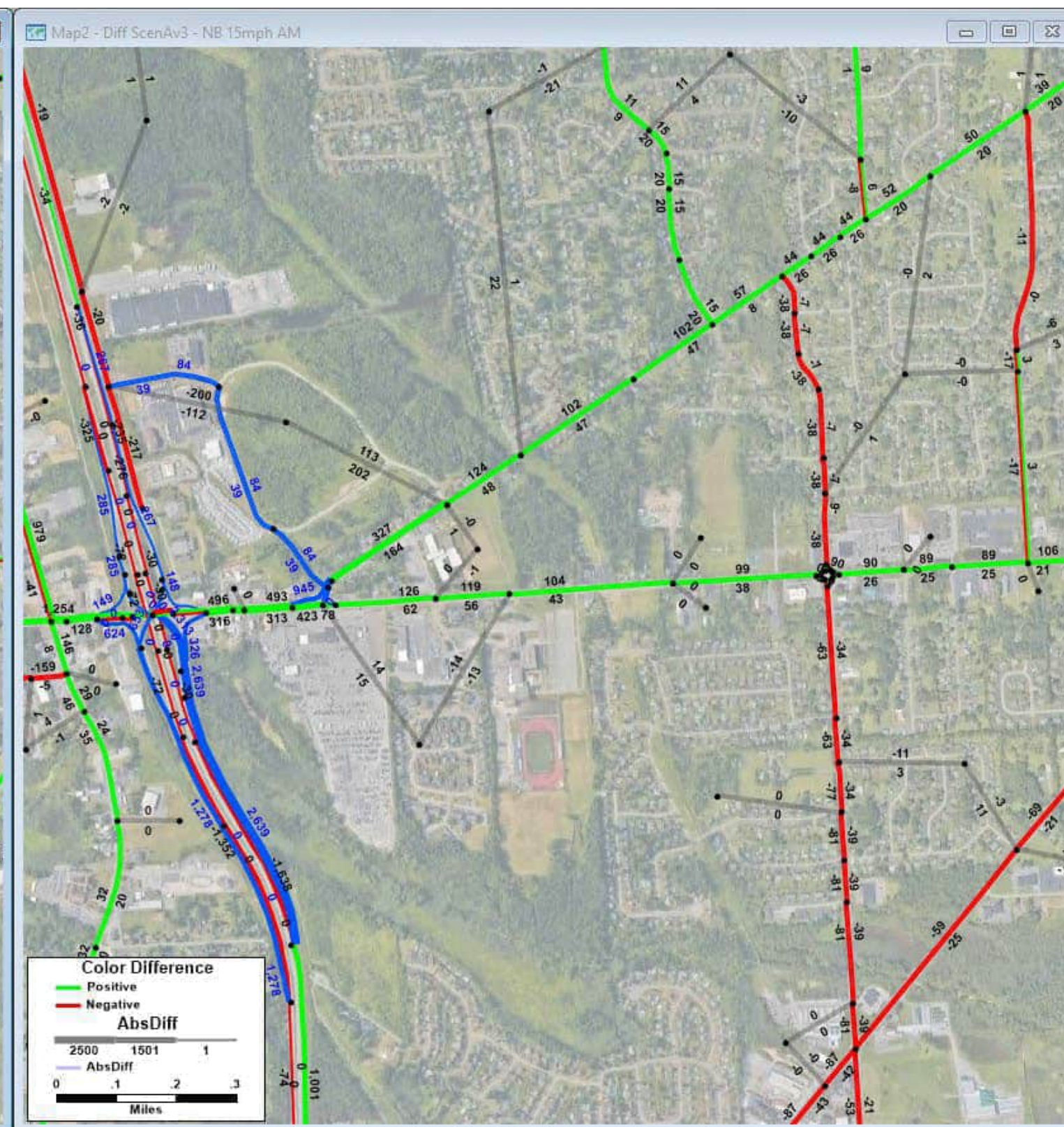




**2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes**

No Build: All future land use and anticipated transportation projects but no Scenario A network changes

Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

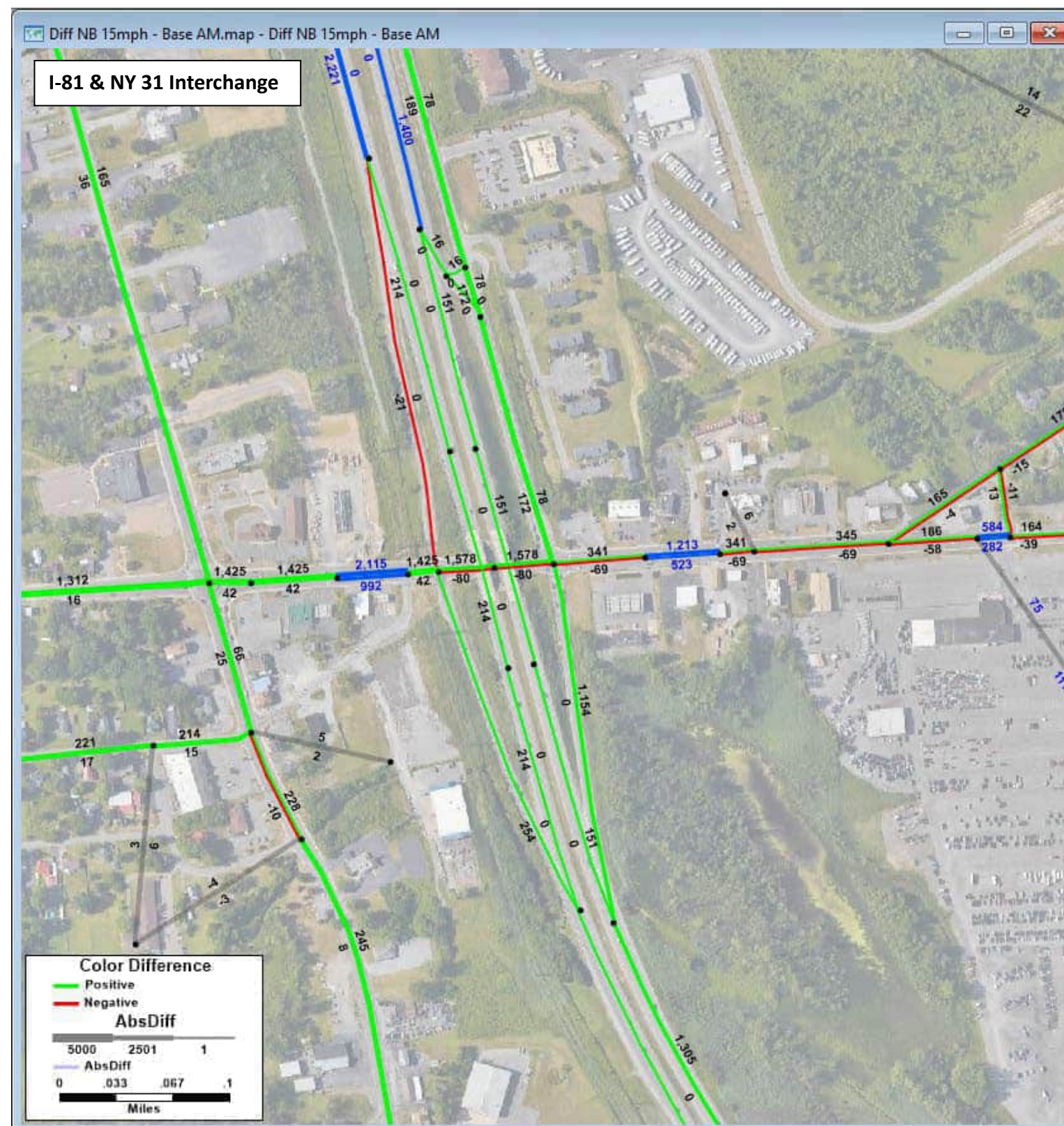


**2040 Scenario A v3 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes**

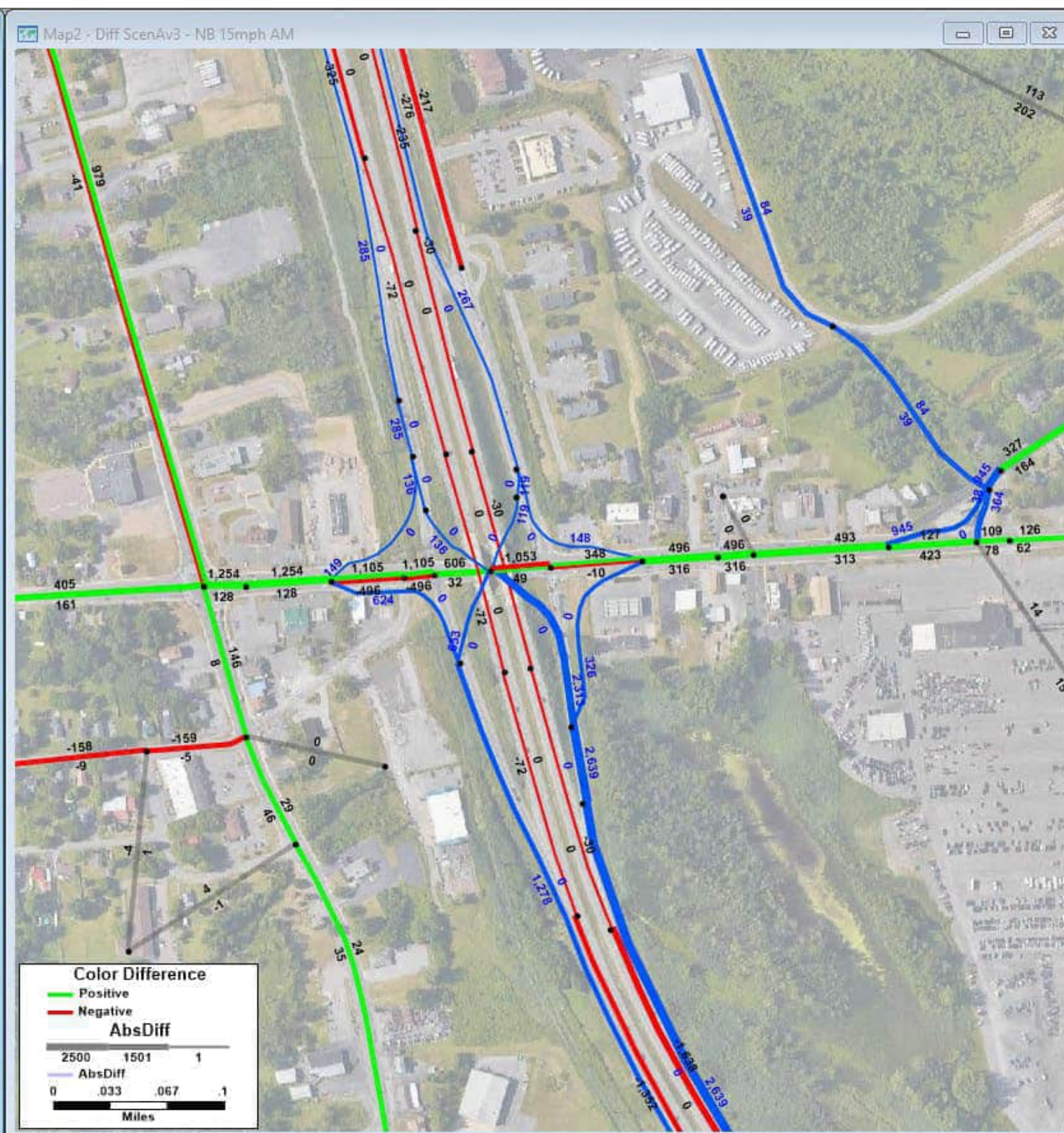
Build: All future land use and anticipated transportation projects with Scenario A network changes

Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



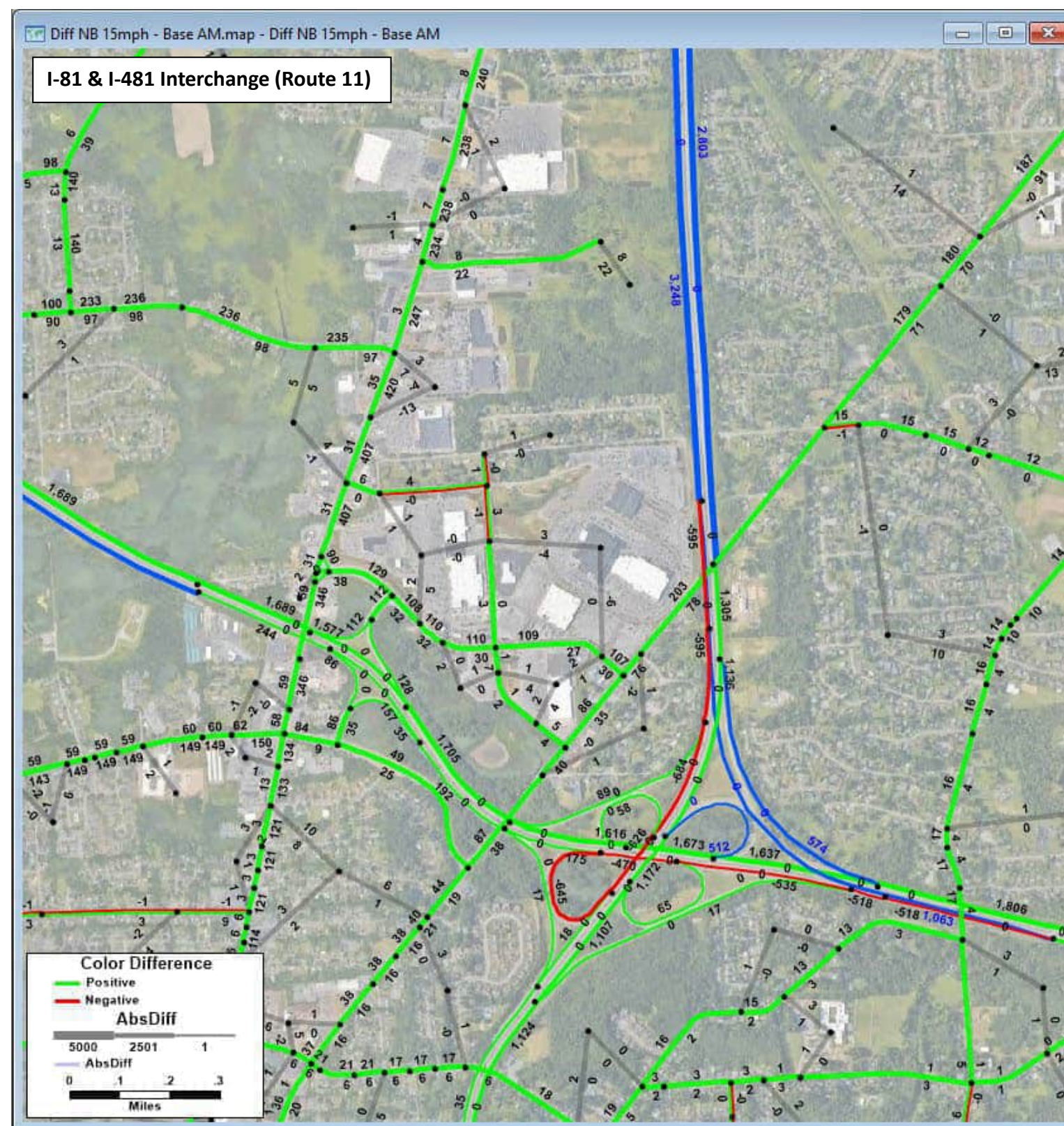


**2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes**  
No Build: All future land use and anticipated transportation projects but no Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

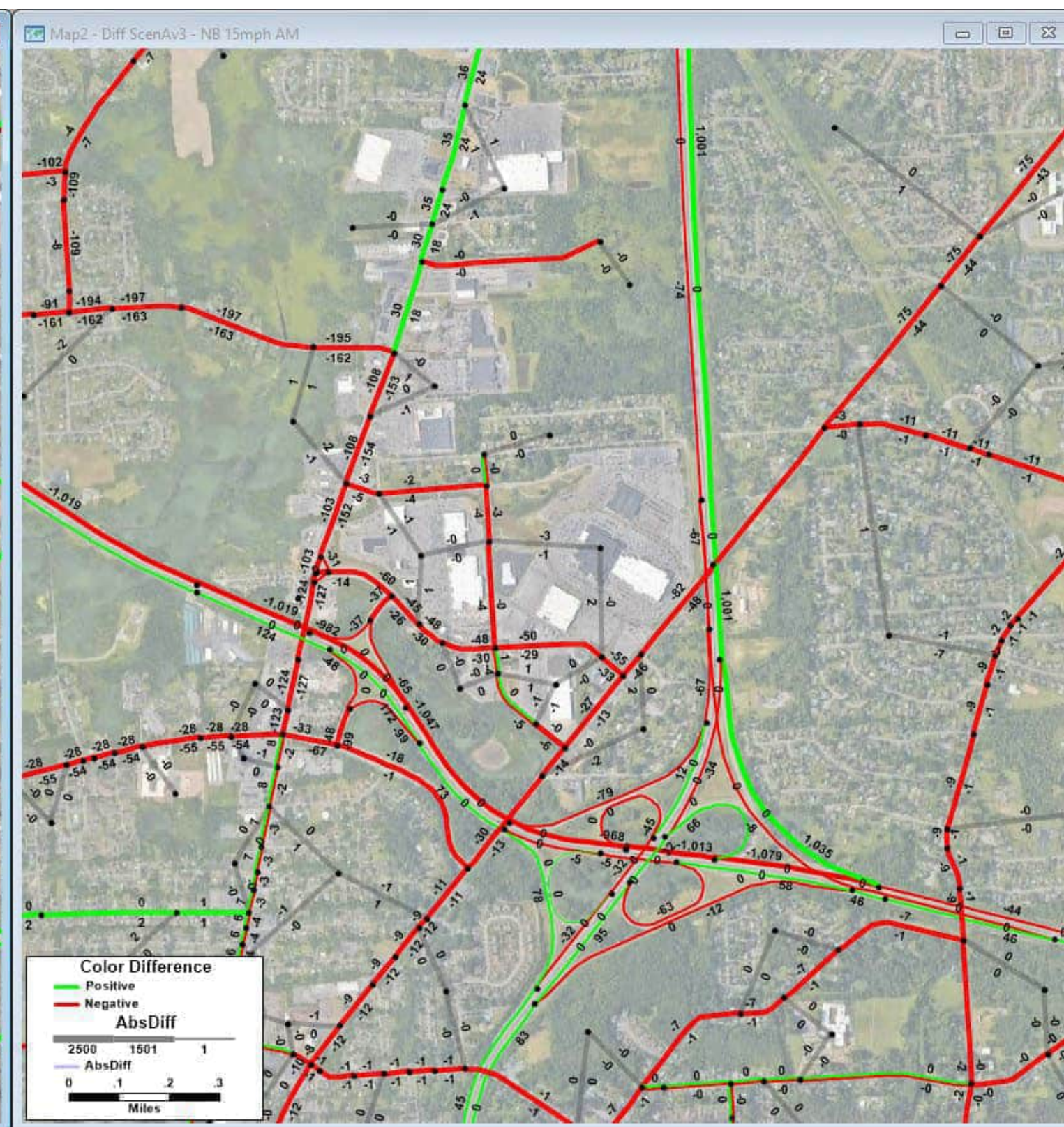


**2040 Scenario A v3 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes**  
Build: All future land use and anticipated transportation projects with Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



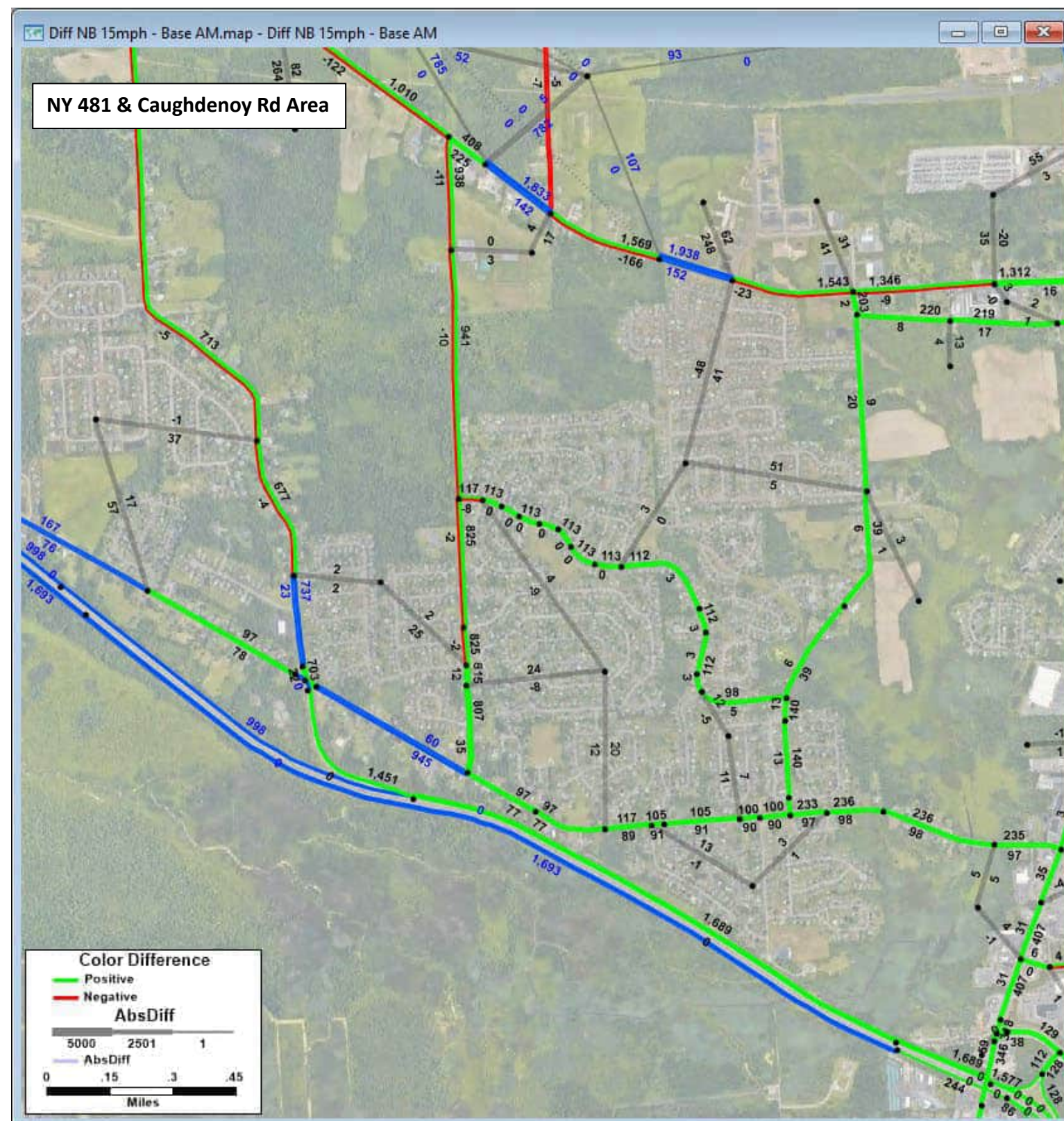


**2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes**  
No Build: All future land use and anticipated transportation projects but no Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



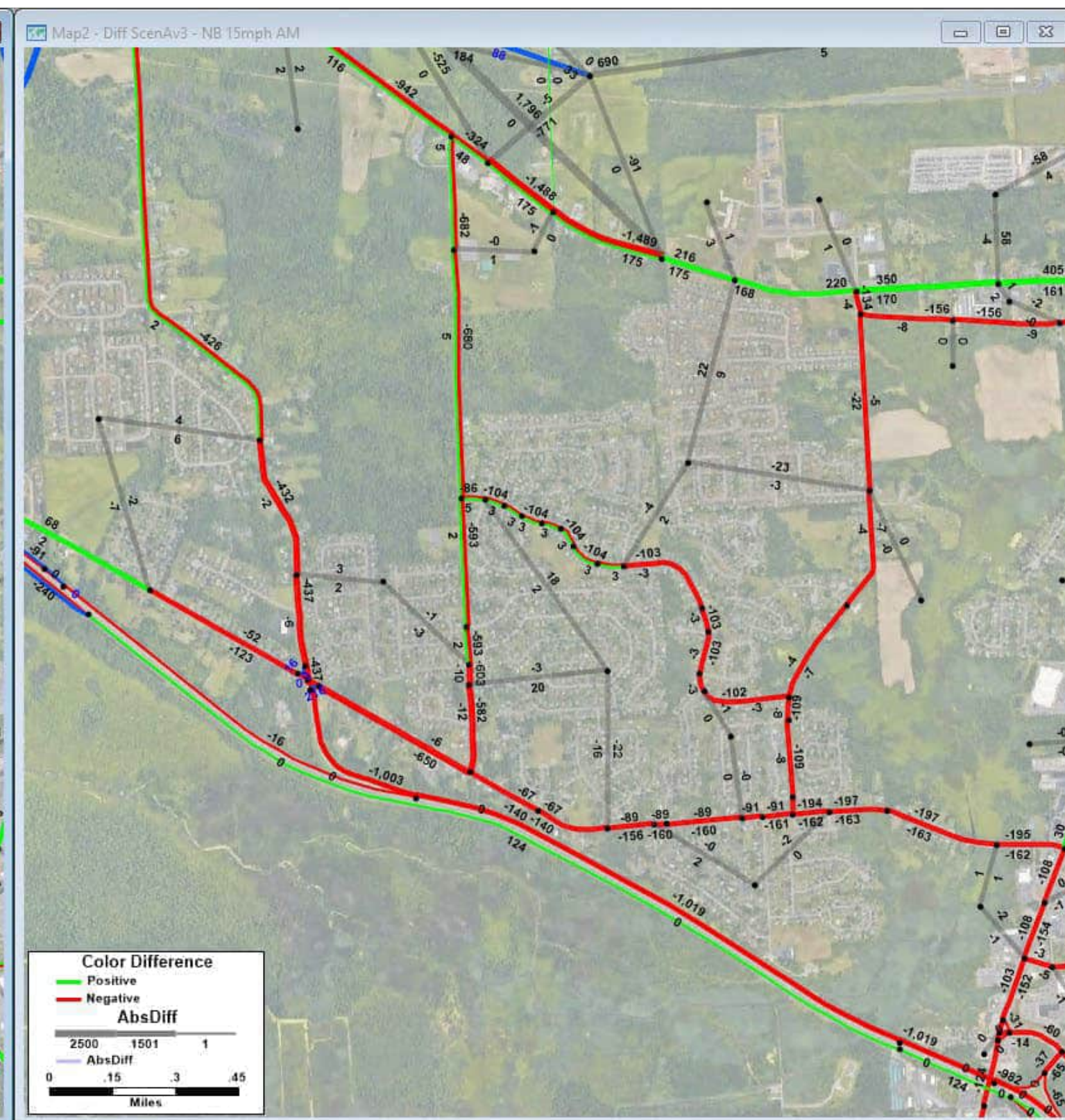
**2040 Scenario A v3 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes**  
Build: All future land use and anticipated transportation projects with Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)





**2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes**

No Build: All future land use and anticipated transportation projects but no Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



**2040 Scenario A v3 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes**

Build: All future land use and anticipated transportation projects with Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

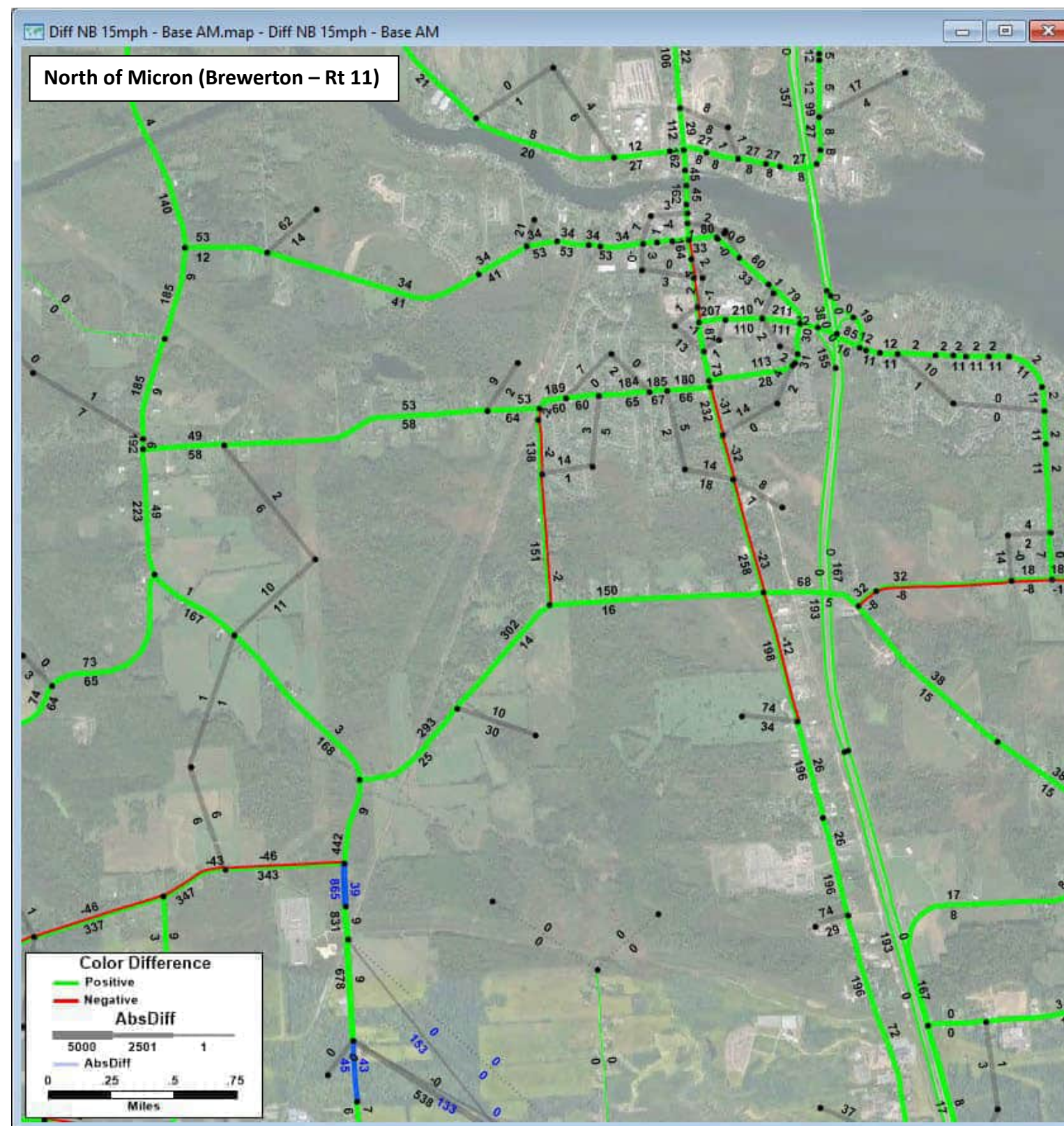




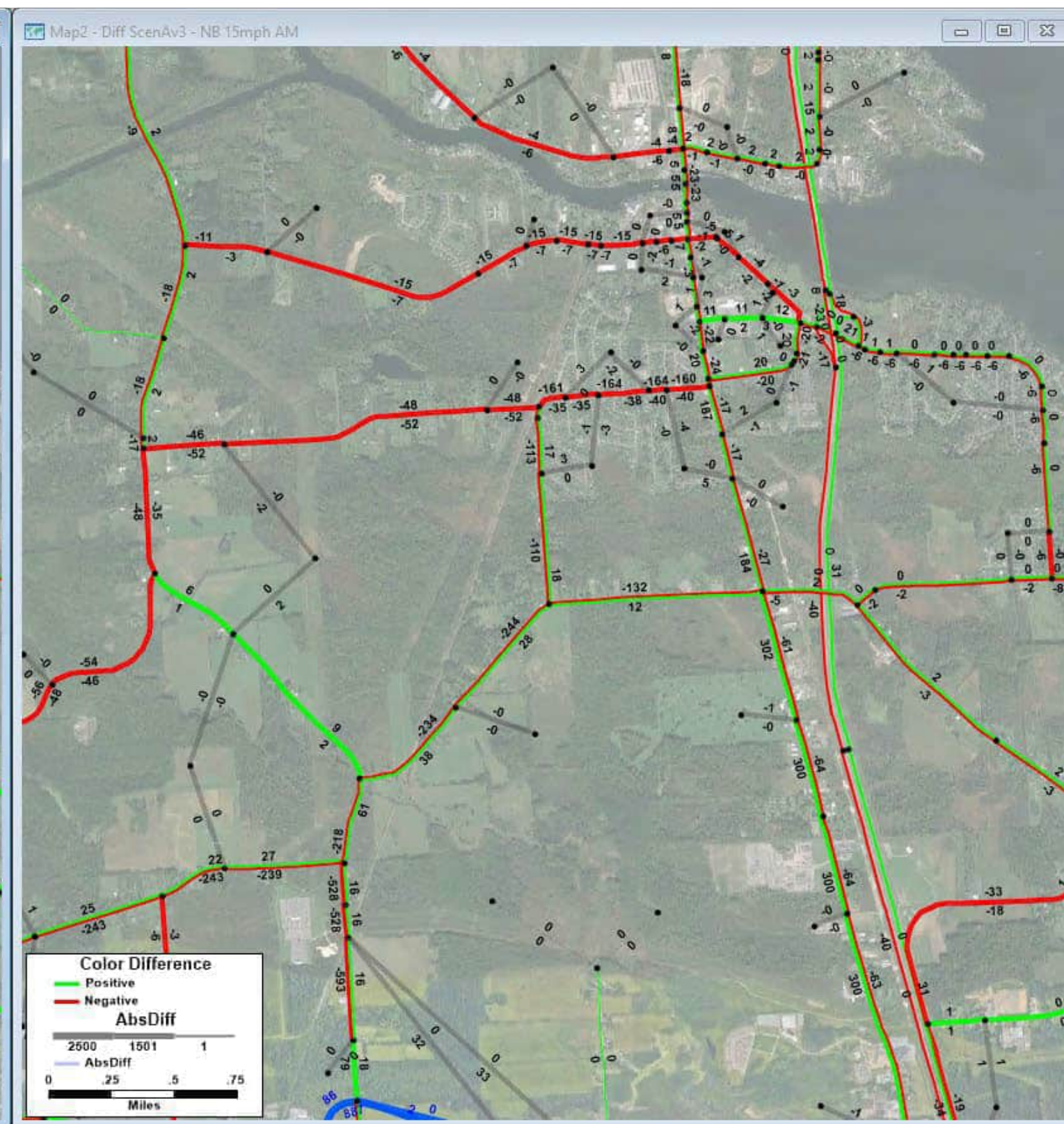
**2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes**  
No Build: All future land use and anticipated transportation projects but no Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

**2040 Scenario A v3 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes**  
Build: All future land use and anticipated transportation projects with Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



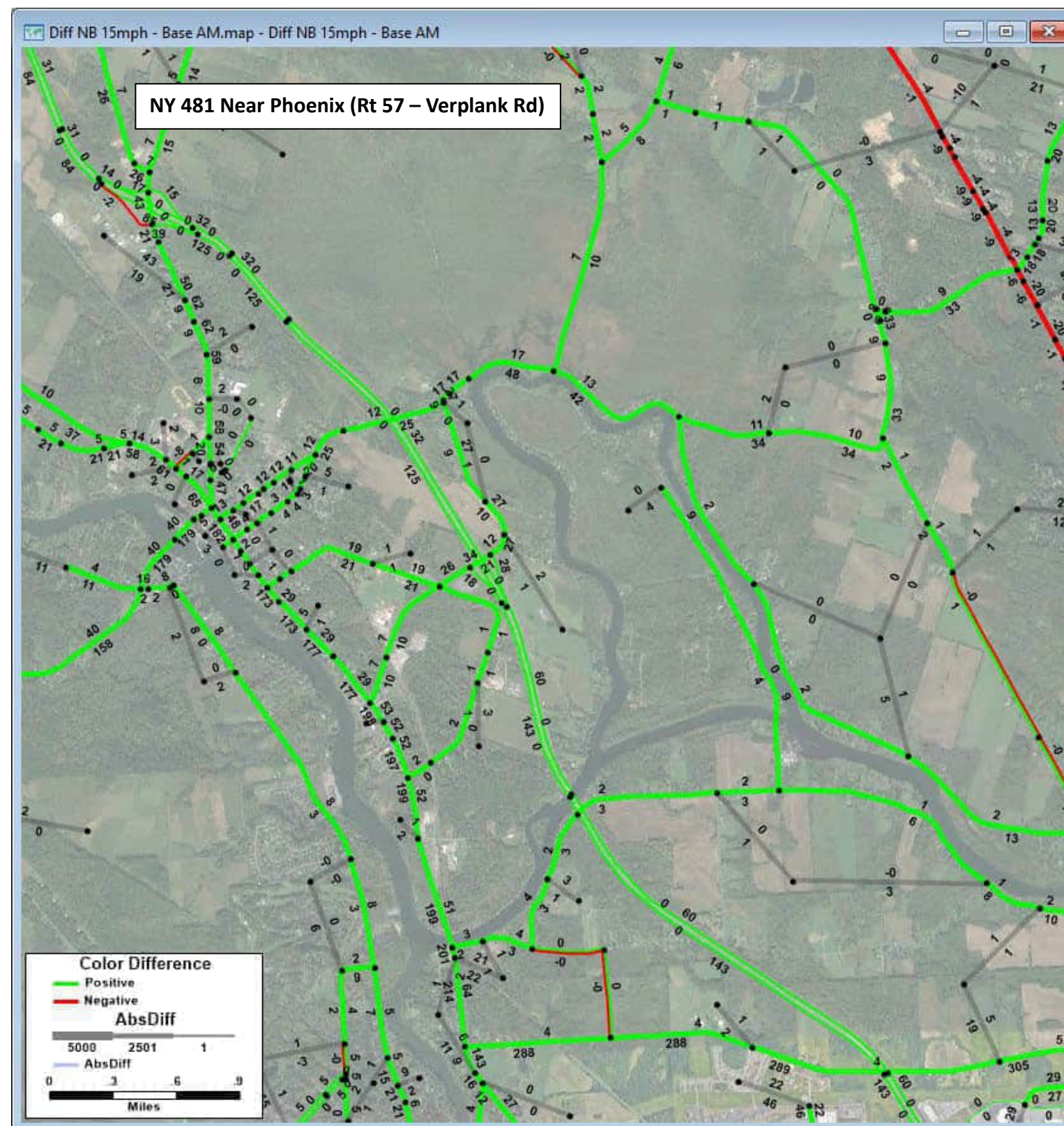


**2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes**  
No Build: All future land use and anticipated transportation projects but no Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

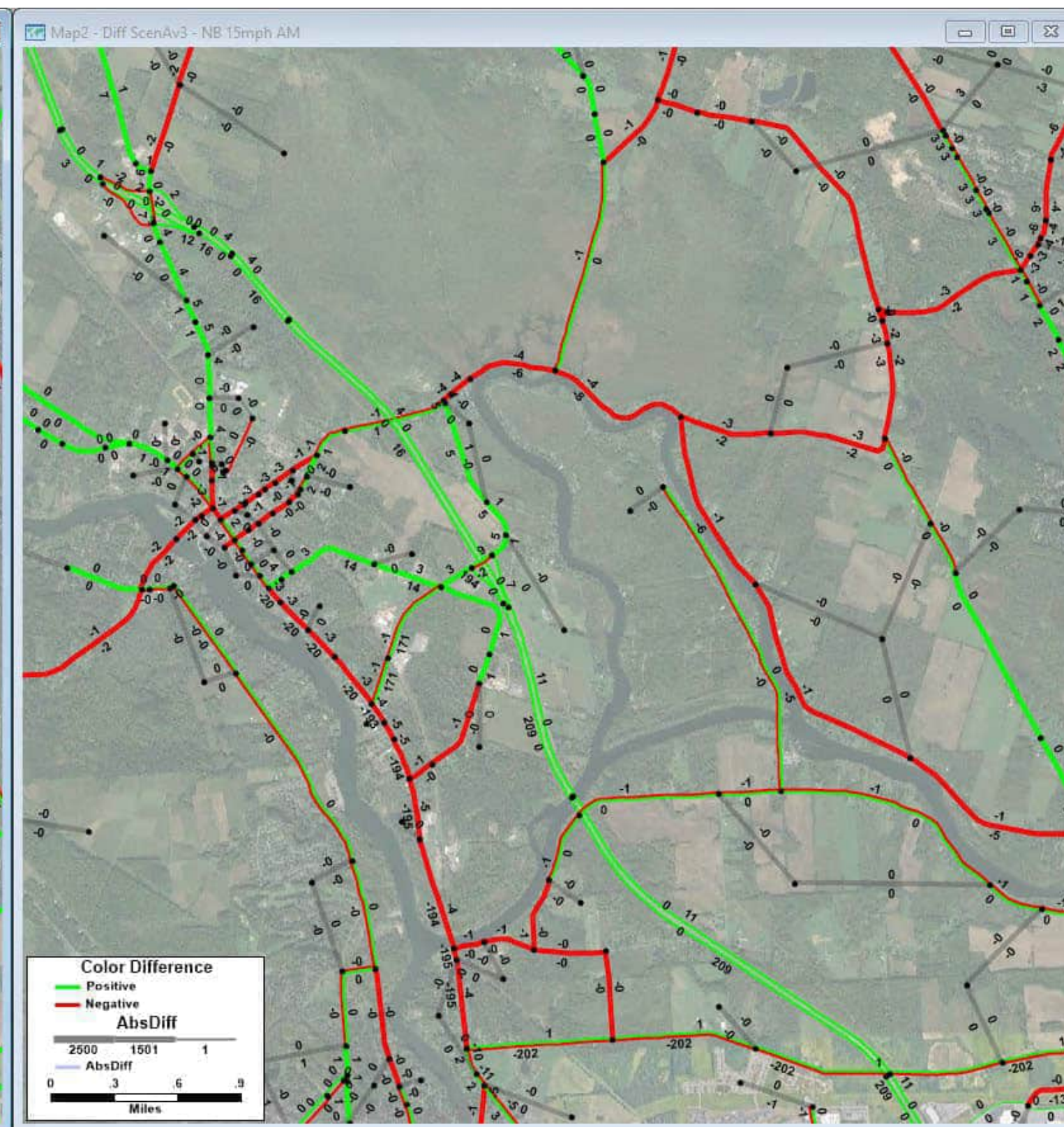


**2040 Scenario A v3 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes**  
Build: All future land use and anticipated transportation projects with Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



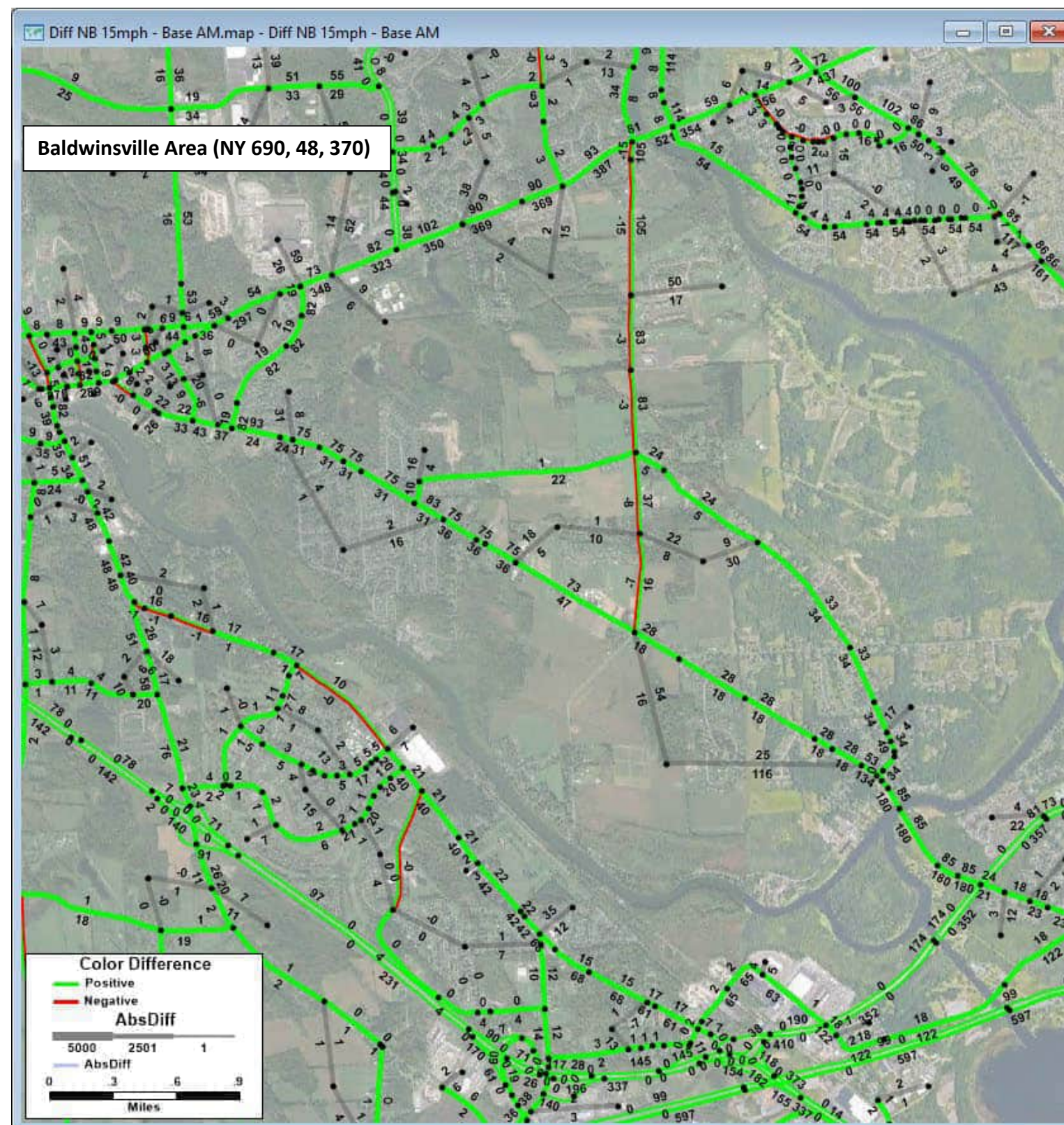


**2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes**  
No Build: All future land use and anticipated transportation projects but no Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

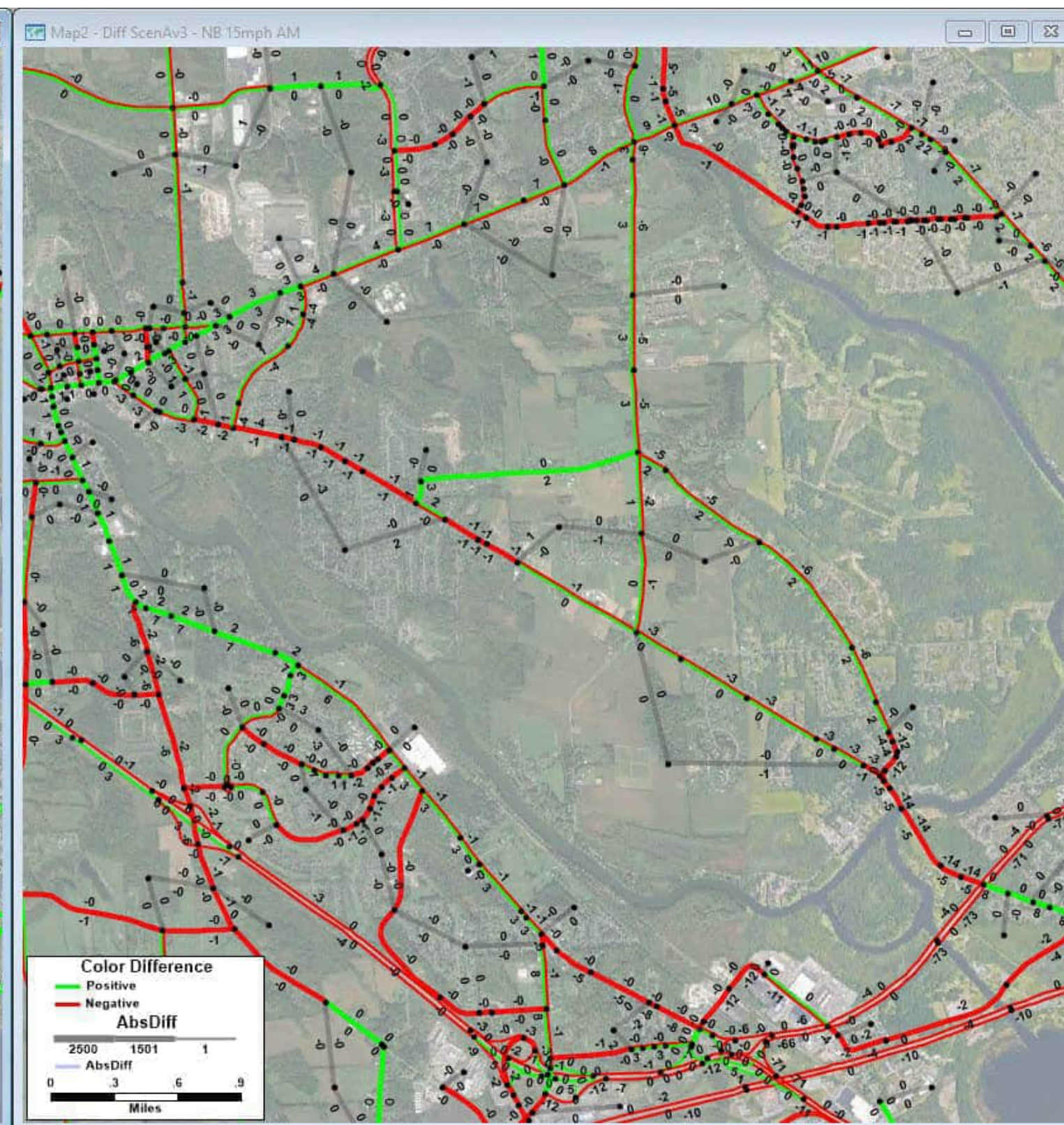


**2040 Scenario A v3 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes**  
Build: All future land use and anticipated transportation projects with Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



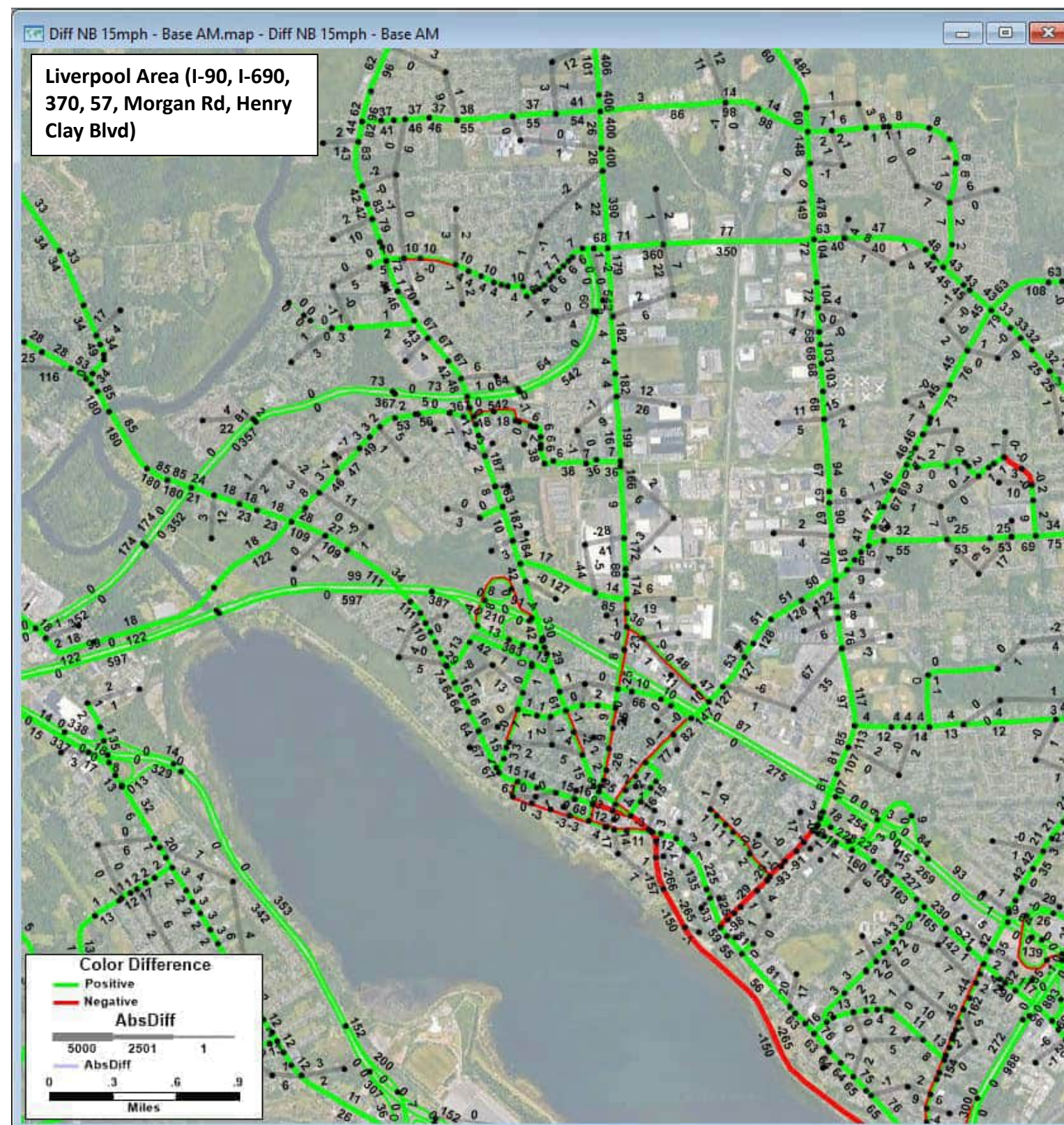


**2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes**  
No Build: All future land use and anticipated transportation projects but no Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

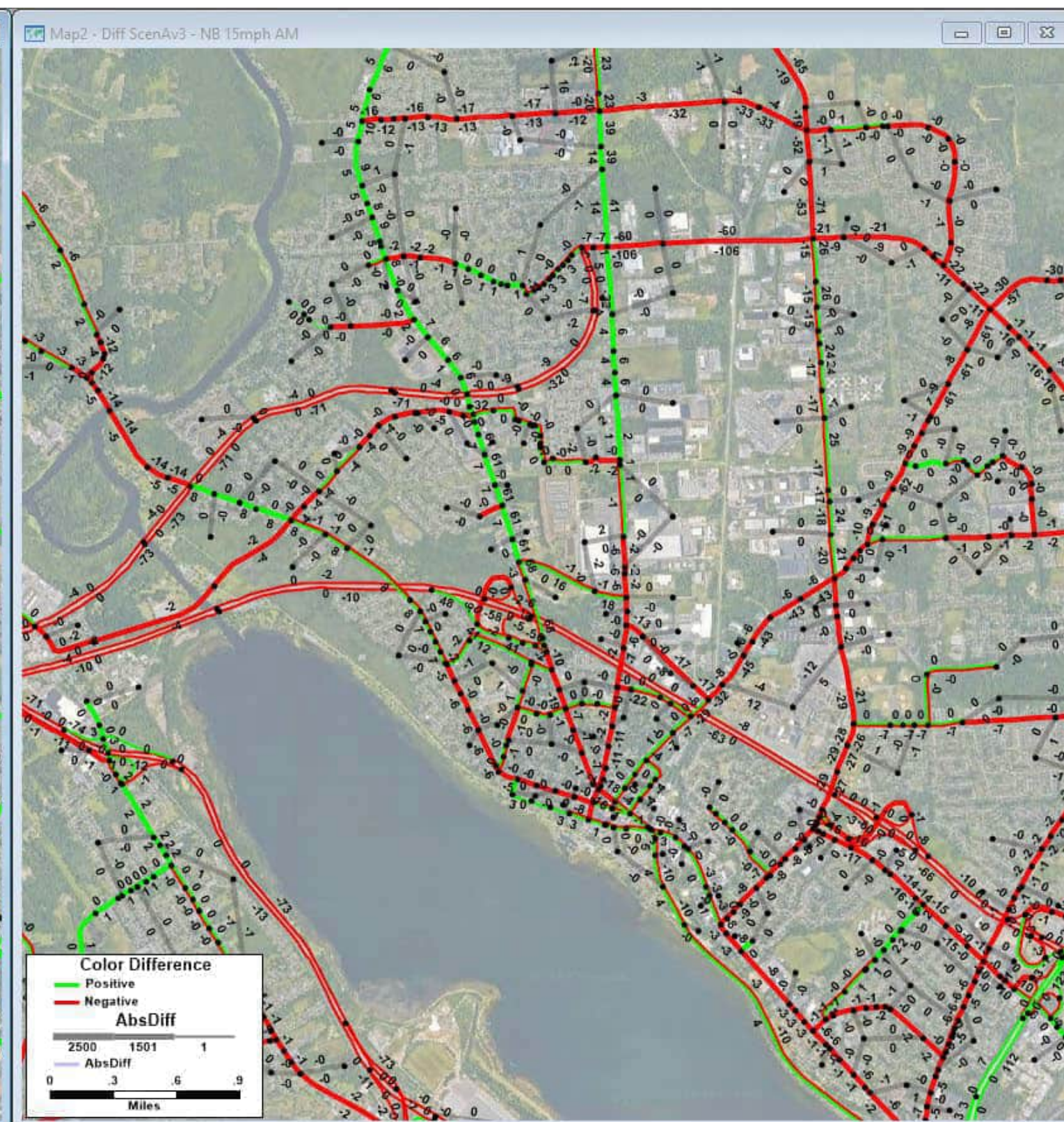


**2040 Scenario A v3 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes**  
Build: All future land use and anticipated transportation projects with Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



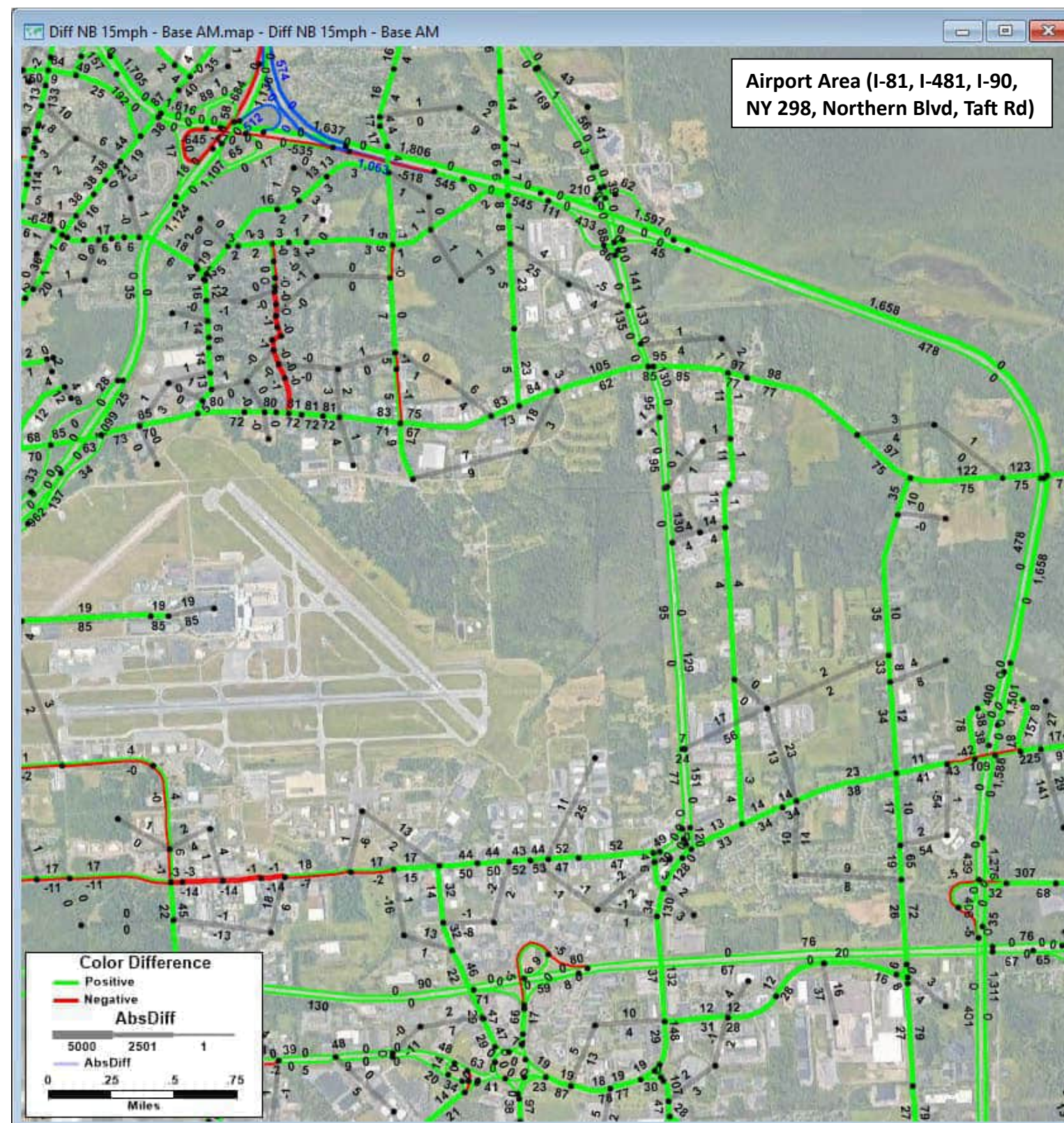


**2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes**  
No Build: All future land use and anticipated transportation projects but no Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



**2040 Scenario A v3 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes**  
Build: All future land use and anticipated transportation projects with Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

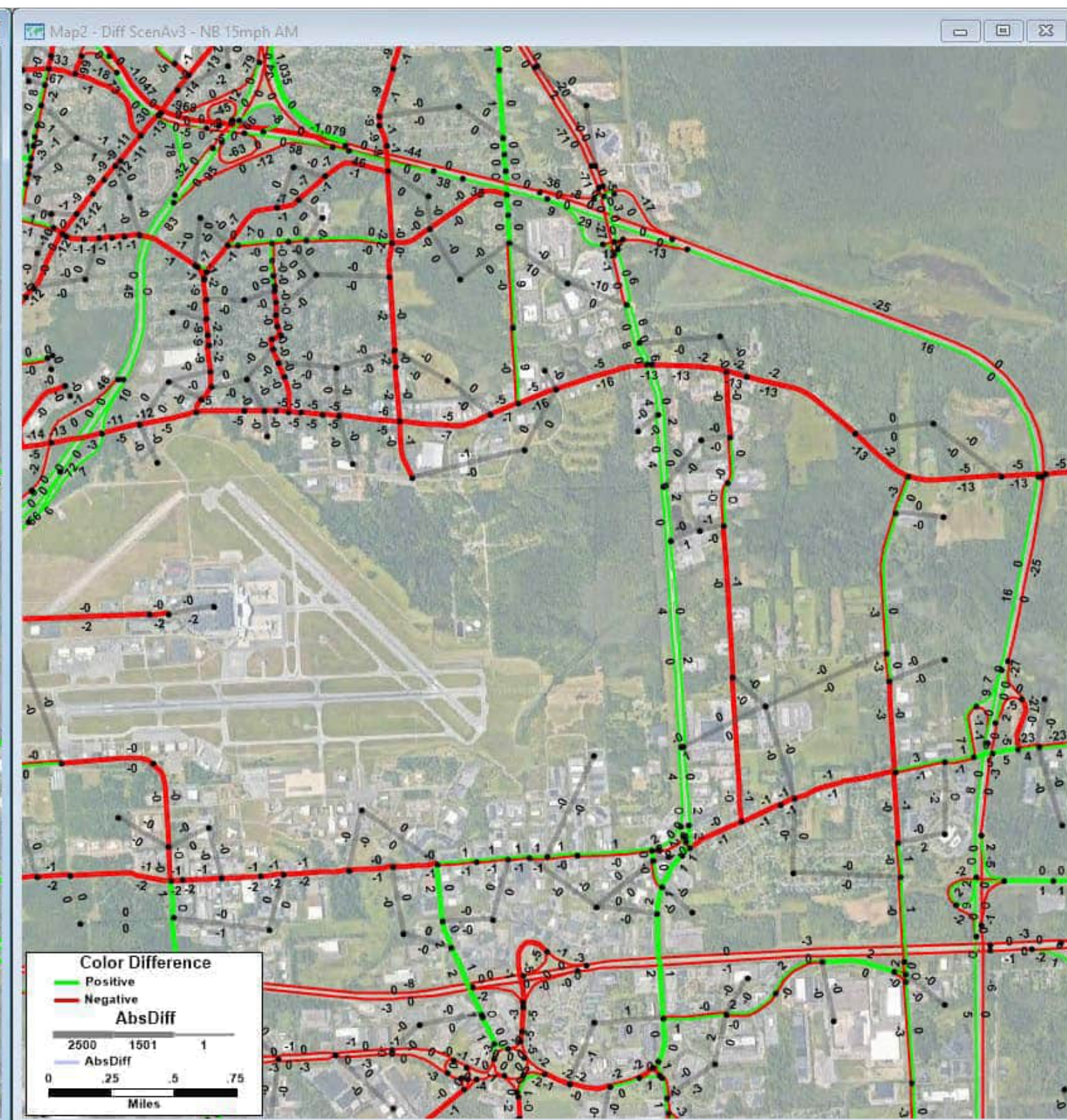




**2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes**

No Build: All future land use and anticipated transportation projects but no Scenario A network changes

Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



**2040 Scenario A v3 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes**

Build: All future land use and anticipated transportation projects with Scenario A network changes

Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

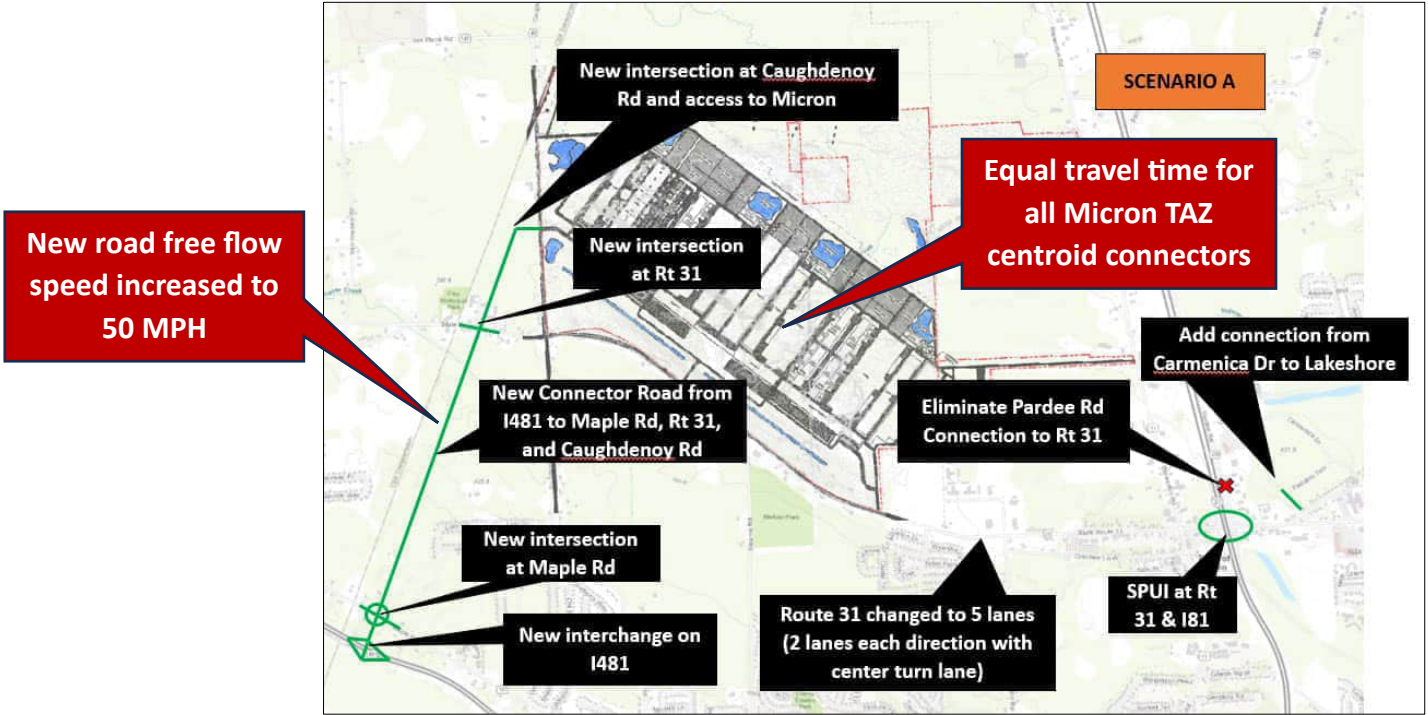


SMTC Travel Demand Model Results: **Scenario A v3** (Scenario A v2 and Equal Travel Time Micron Centroid Connectors) – **PM PEAK HOUR CHANGE IN VOLUMES**

The graphic to the right shows the general assumptions for **Scenario A v3** →

Notes:

- All 2040 scenarios include projected future land use growth (including Micron)
- No Build in this document refers to no Micron related road network changes
- **RED** callouts note the revisions made to Scenario A



The graphic to the right is an example of what is included in this document →

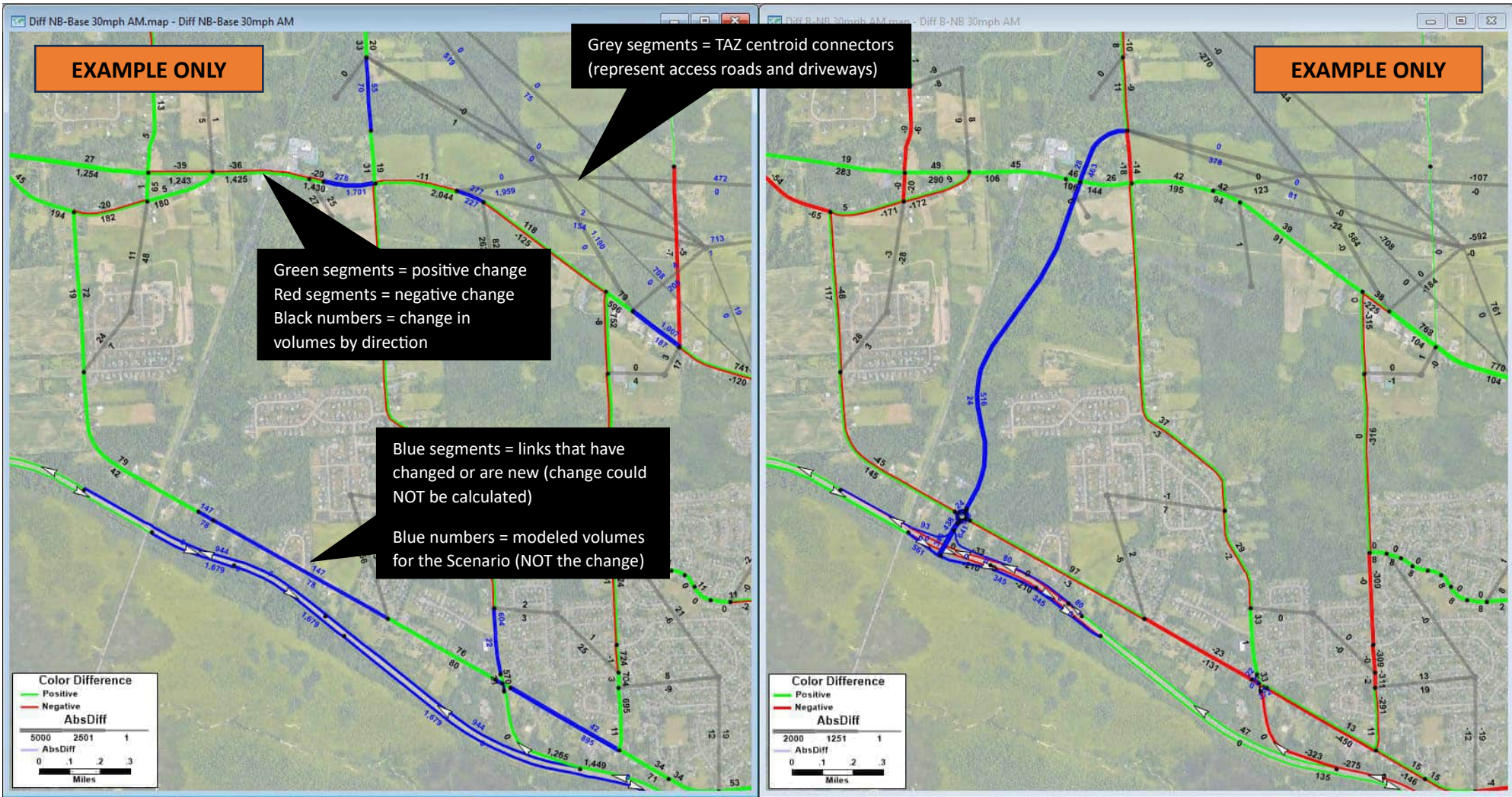
The map on the left displays the change in **PM** volumes between the 2020 existing conditions base model to the 2040 No Build (**2040 NB PM Volumes less 2020 PM volumes**). No Build in this case refers to no network improvements, the build future land use conditions are included (including Micron).

The map on the right displays the change in **PM** volumes between the 2040 No Build to the 2040 Scenario “X” Build (**2040 Scenario “X” Build PM Volumes less 2040 NB PM volumes**).

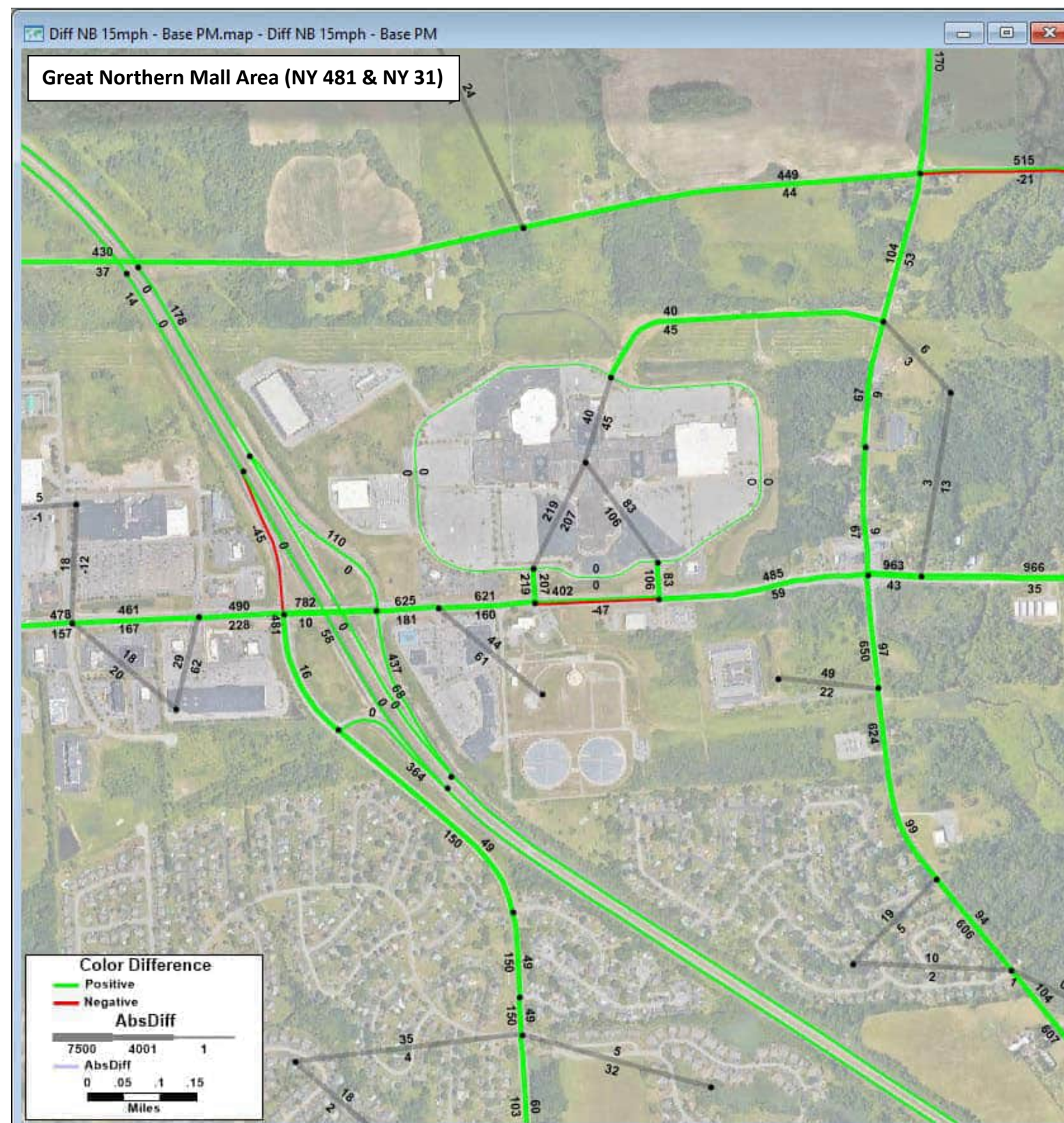
MAP NOTES:

- **Green** segments = positive change between identified scenarios
- **Red** segments = negative change between identified scenarios
- **Black numbers** = change in volumes by direction
- **Blue** segments = links that have changed or are new for that scenario therefore a change can **NOT** be calculated
- **Blue numbers** = modeled volume by direction on that segment for that scenario (change could NOT be calculated for that link)
- **Gray** segments = TAZ centroid connectors (general representation of access roads and driveways)

To get total future volume on a segment add up the numbers from both maps and then add that to existing traffic counts.



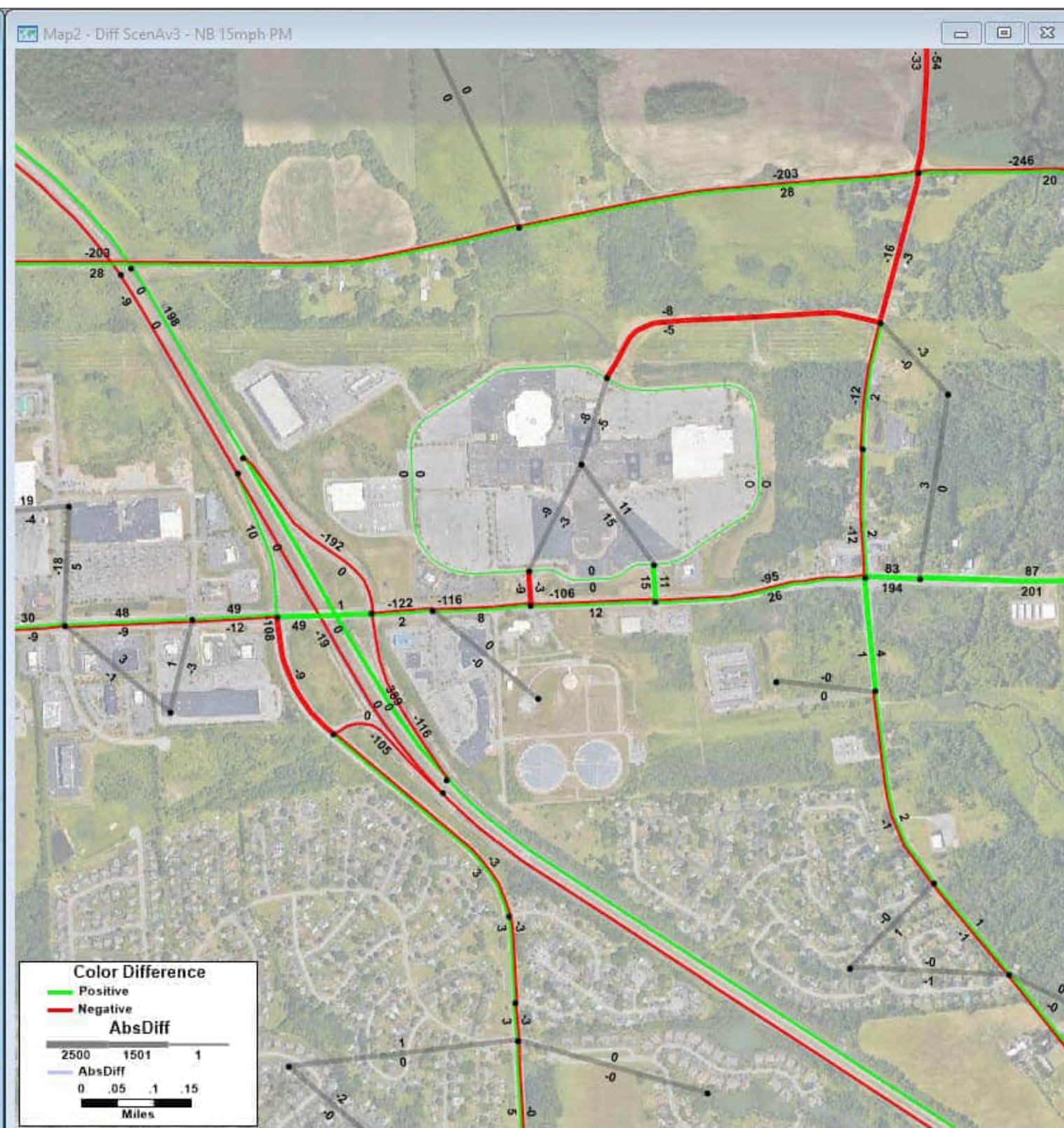




**2040 No Build PM Volumes - 2020 Existing Conditions PM Volumes = Change in PM Volumes**

No Build: All future land use and anticipated transportation projects but no Scenario A network changes

Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

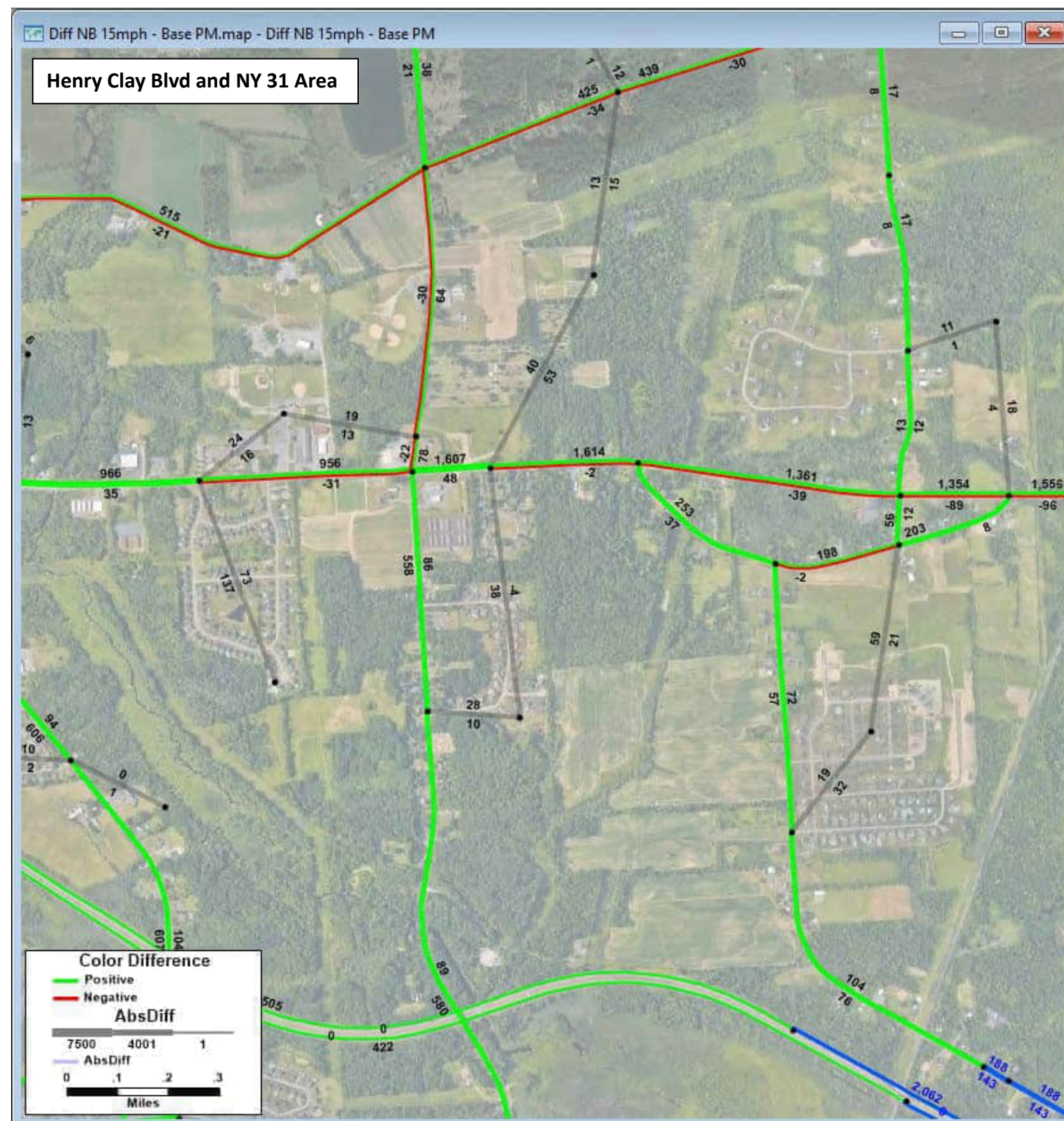


**2040 Scenario A v3 PM Volumes - 2040 No Build PM Volumes = Change in PM Volumes**

Build: All future land use and anticipated transportation projects with Scenario A network changes

Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

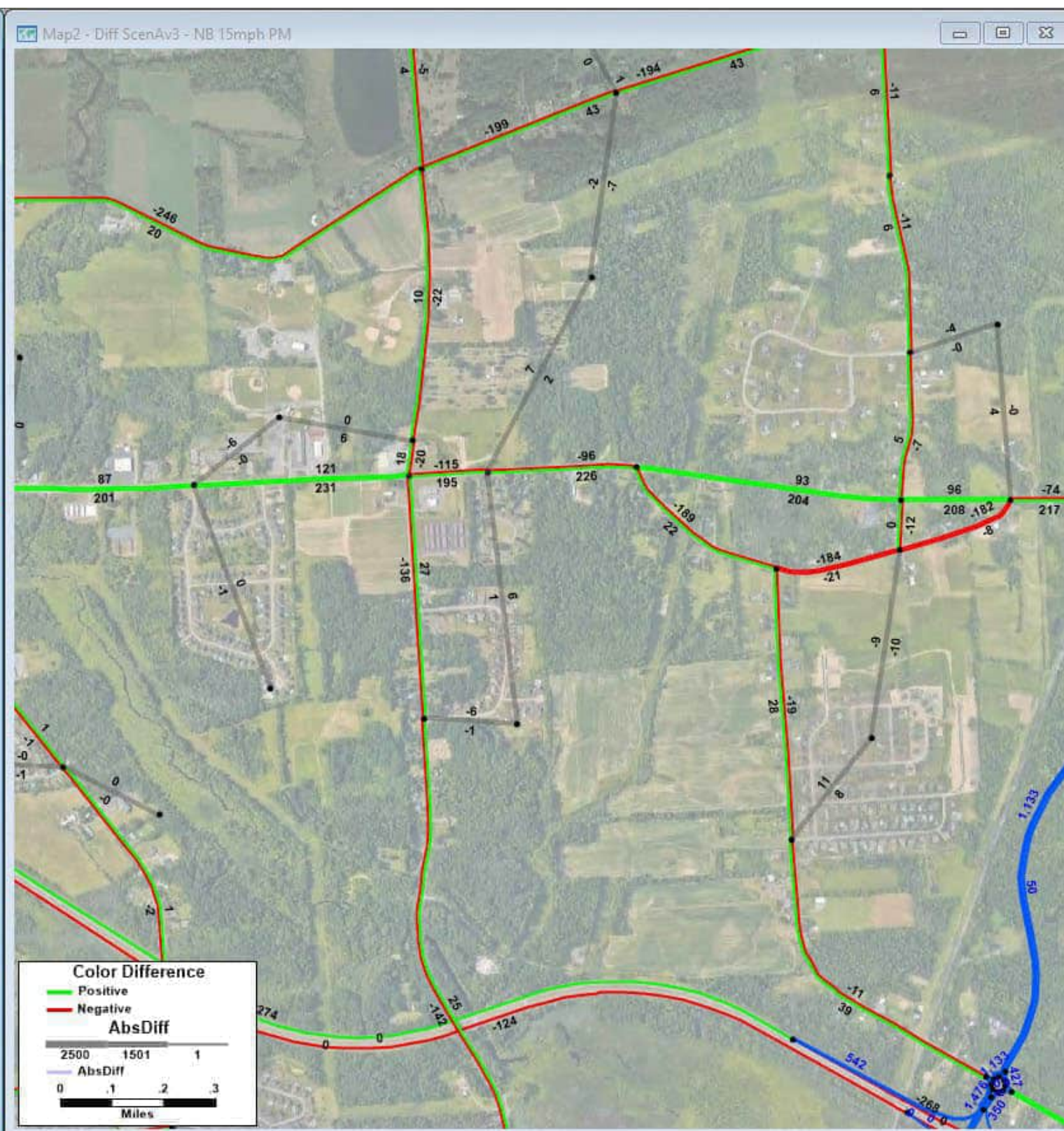




**2040 No Build PM Volumes - 2020 Existing Conditions PM Volumes = Change in PM Volumes**

No Build: All future land use and anticipated transportation projects but no Scenario A network changes

Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

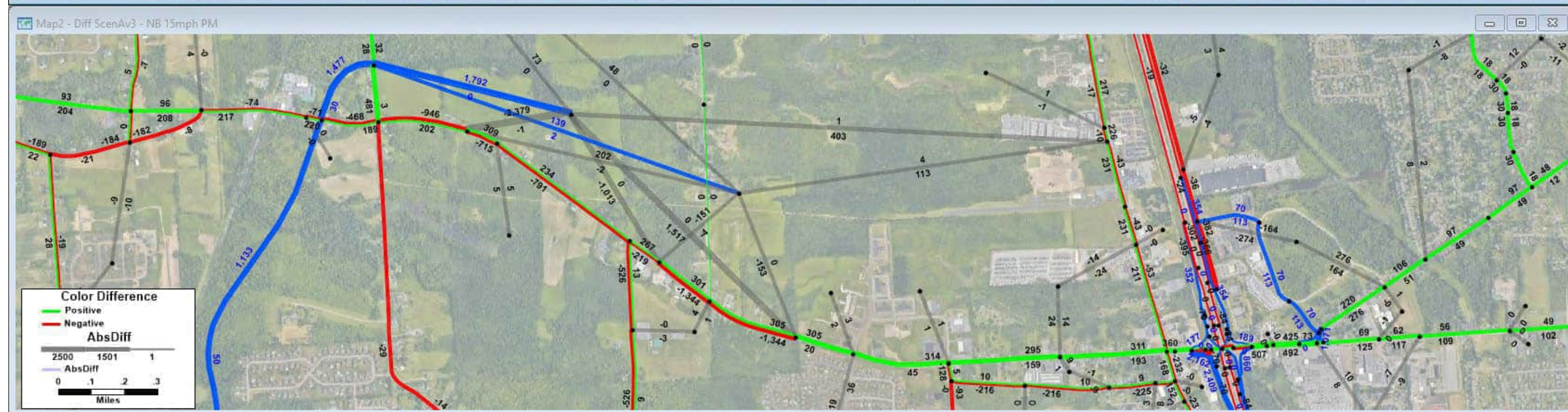
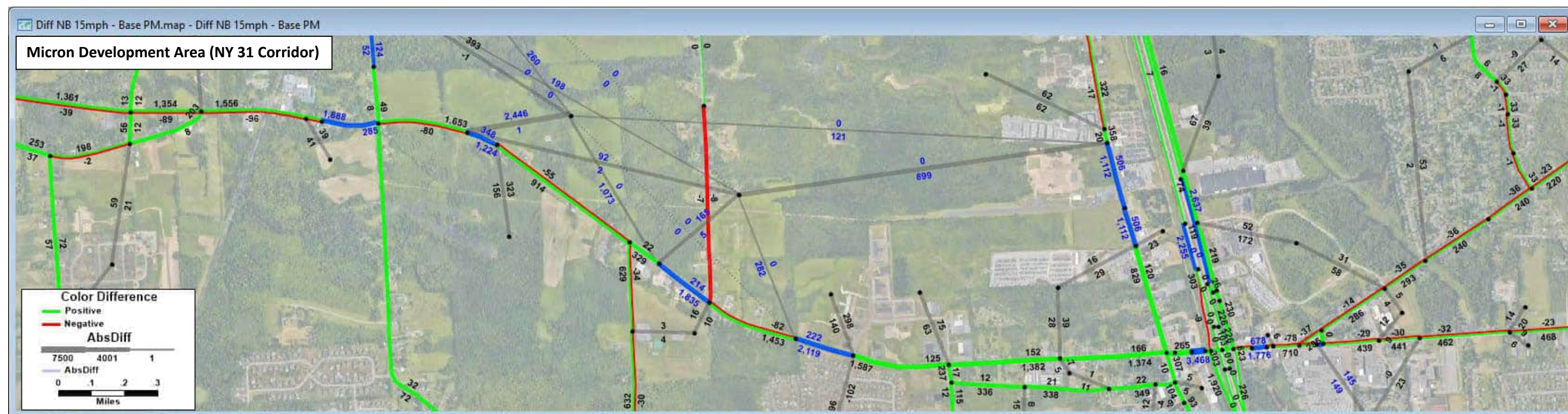


**2040 Scenario A v3 PM Volumes - 2040 No Build PM Volumes = Change in PM Volumes**

Build: All future land use and anticipated transportation projects with Scenario A network changes

Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

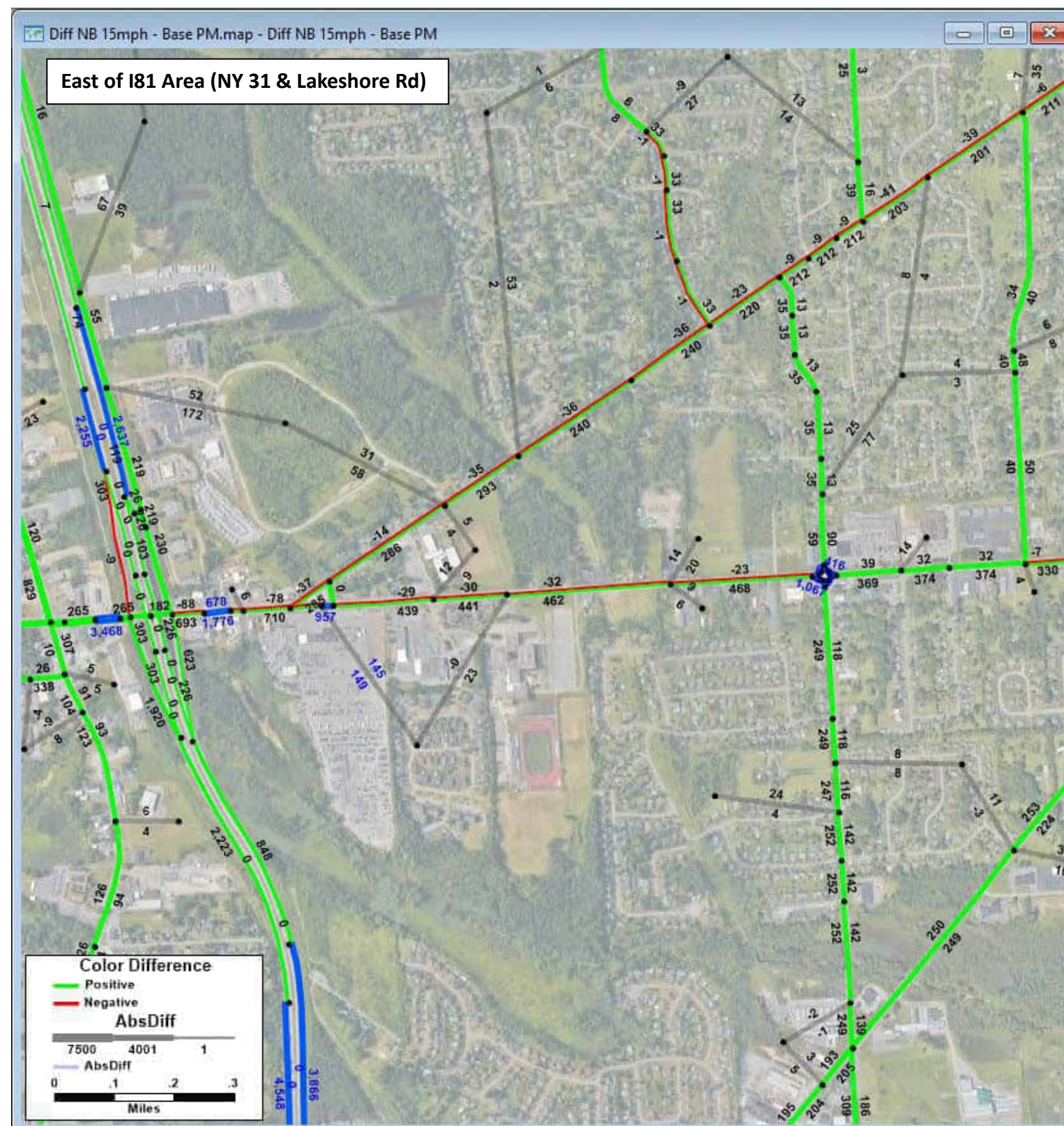




**(TOP MAP) 2040 No Build PM Volumes - 2020 Existing Conditions PM Volumes = Change in PM Volumes**  
No Build: All future land use and anticipated transportation projects but no Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

**(Bottom MAP) 2040 Scenario A v3 PM Volumes - 2040 No Build PM Volumes = Change in PM Volumes**  
Build: All future land use and anticipated transportation projects with Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

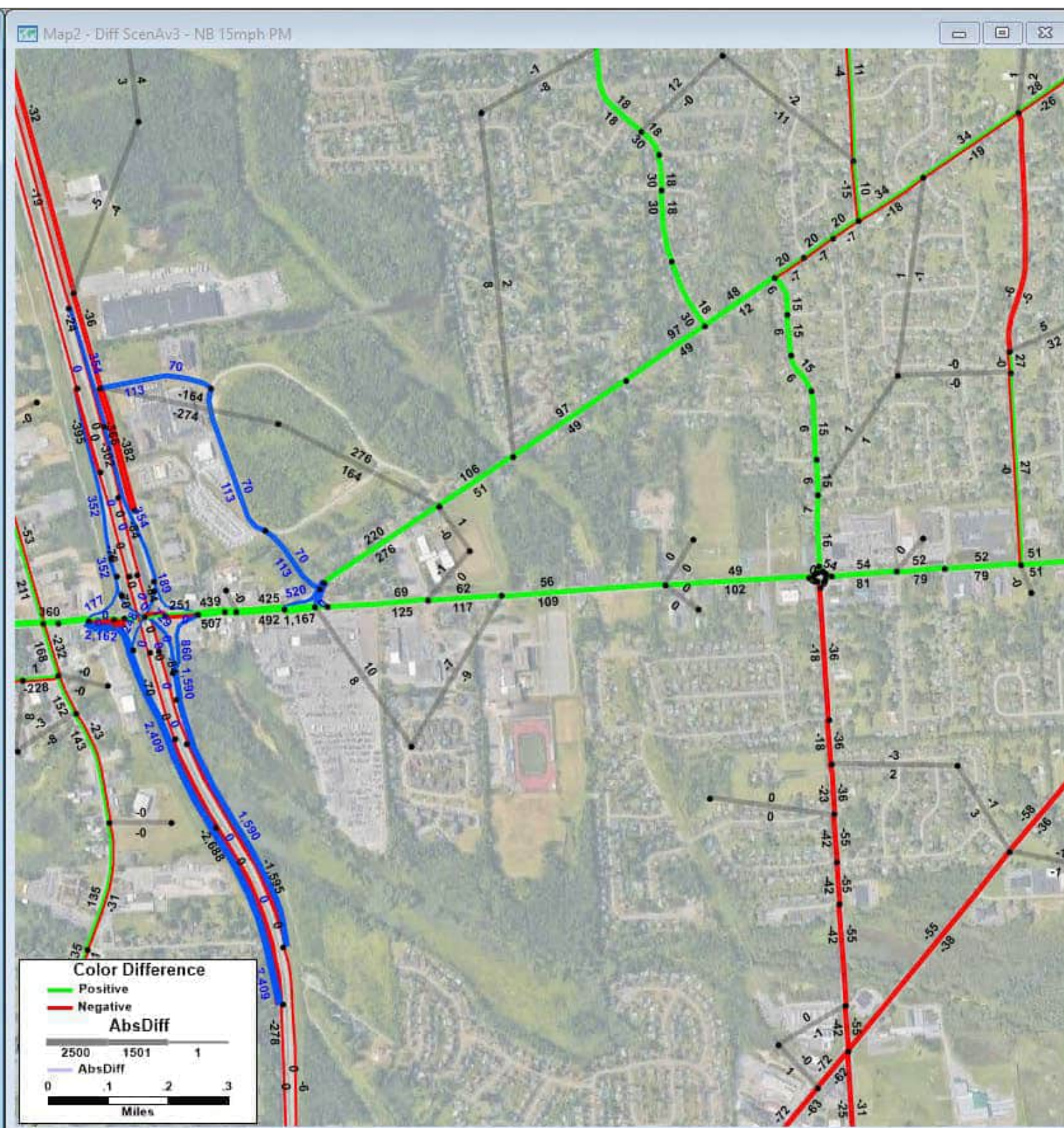




**2040 No Build PM Volumes - 2020 Existing Conditions PM Volumes = Change in PM Volumes**

No Build: All future land use and anticipated transportation projects but no Scenario A network changes

Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

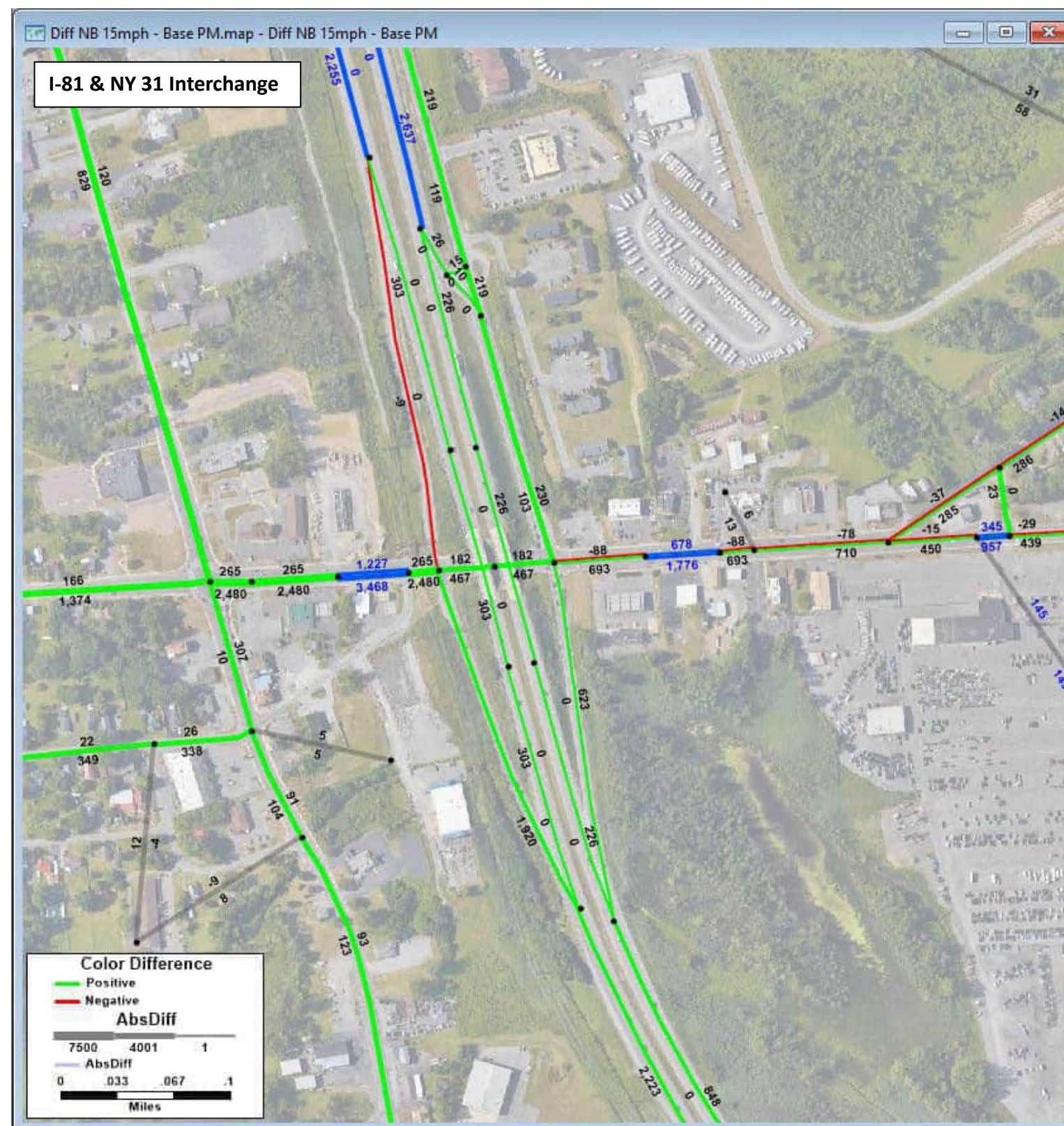


**2040 Scenario A v3 PM Volumes - 2040 No Build PM Volumes = Change in PM Volumes**

Build: All future land use and anticipated transportation projects with Scenario A network changes

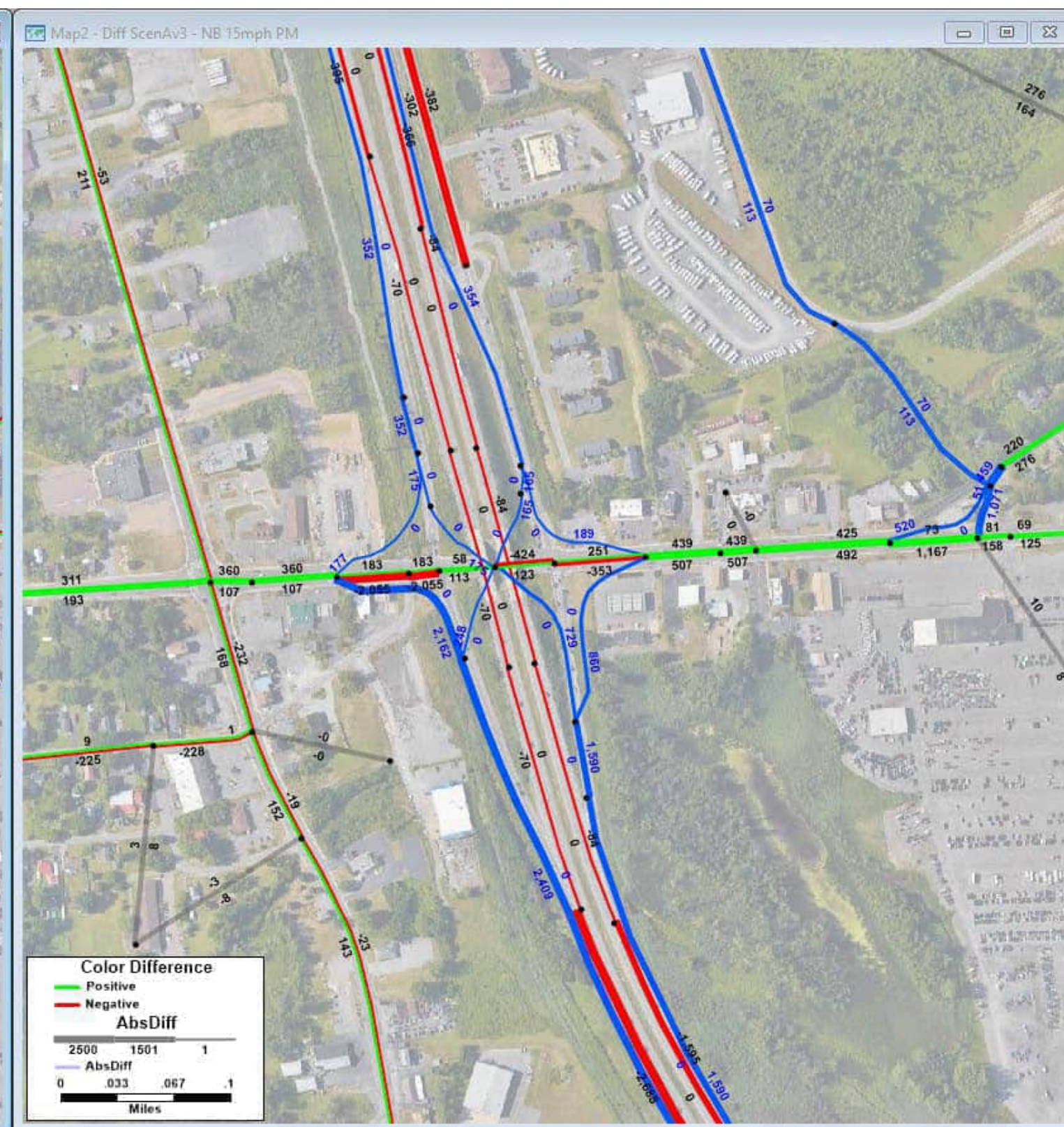
Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)





**2040 No Build PM Volumes - 2020 Existing Conditions PM Volumes = Change in PM Volumes**

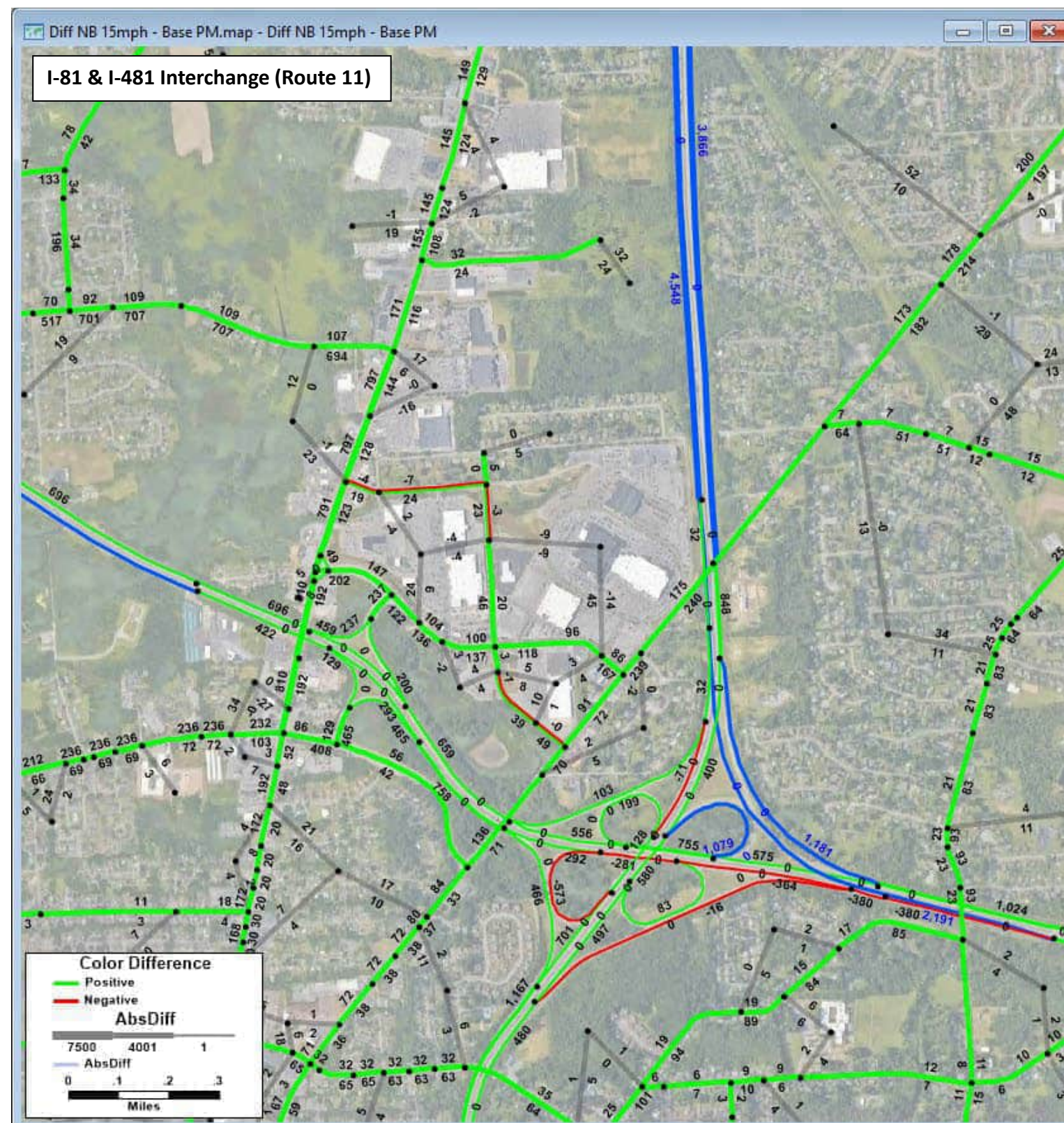
No Build: All future land use and anticipated transportation projects but no Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



**2040 Scenario A v3 PM Volumes - 2040 No Build PM Volumes = Change in PM Volumes**

Build: All future land use and anticipated transportation projects with Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

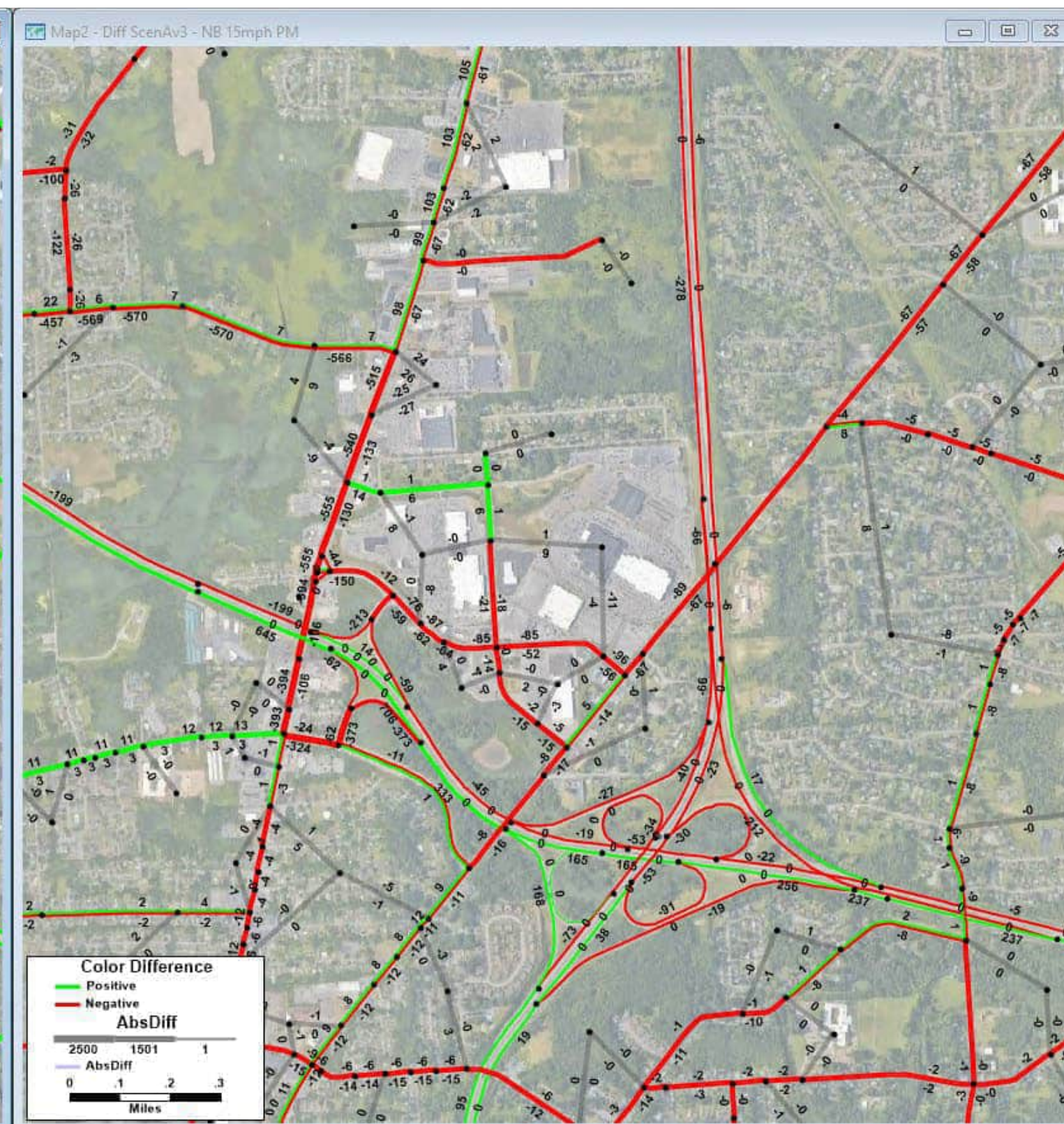




**2040 No Build PM Volumes - 2020 Existing Conditions PM Volumes = Change in PM Volumes**

No Build: All future land use and anticipated transportation projects but no Scenario A network changes

Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

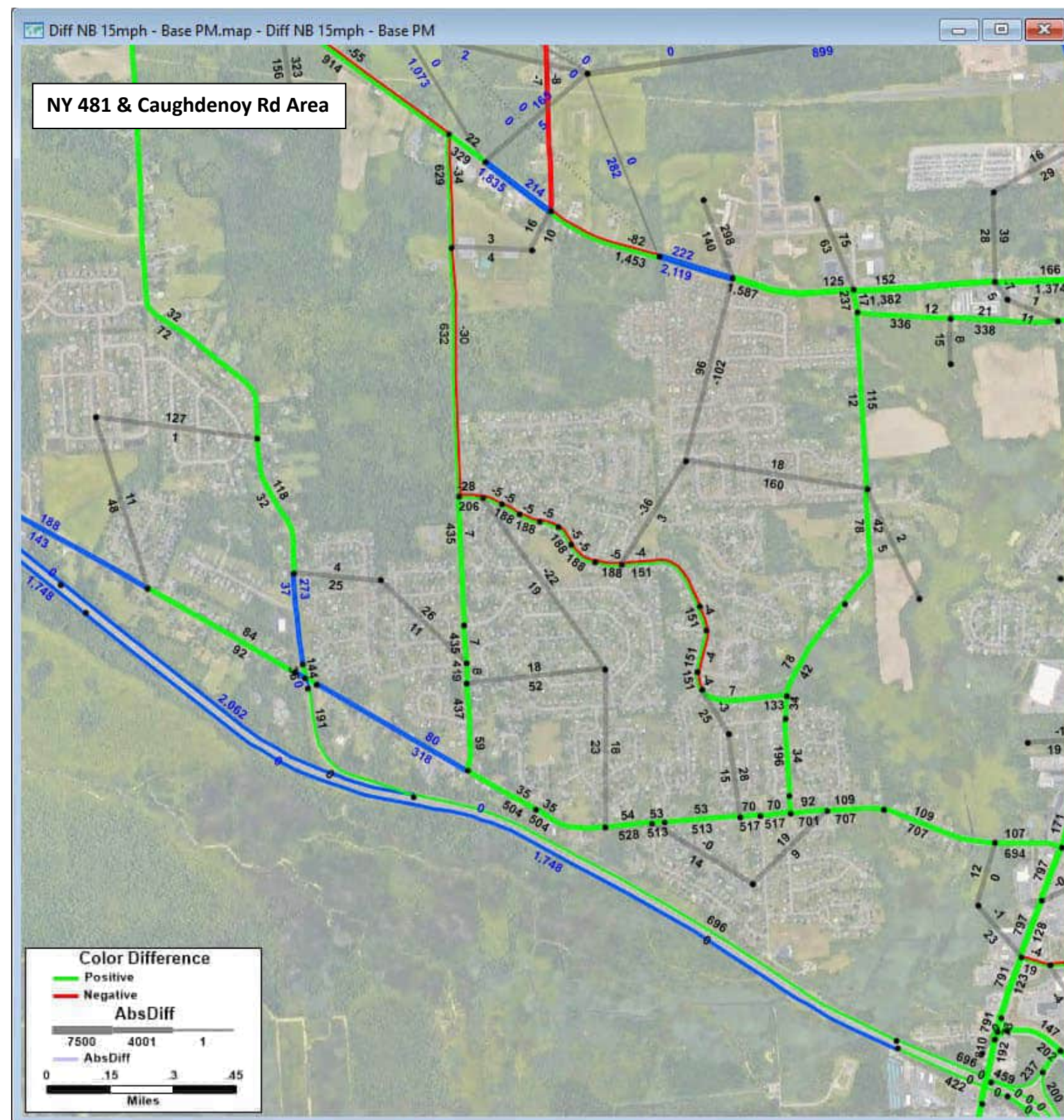


**2040 Scenario A v3 PM Volumes - 2040 No Build PM Volumes = Change in PM Volumes**

Build: All future land use and anticipated transportation projects with Scenario A network changes

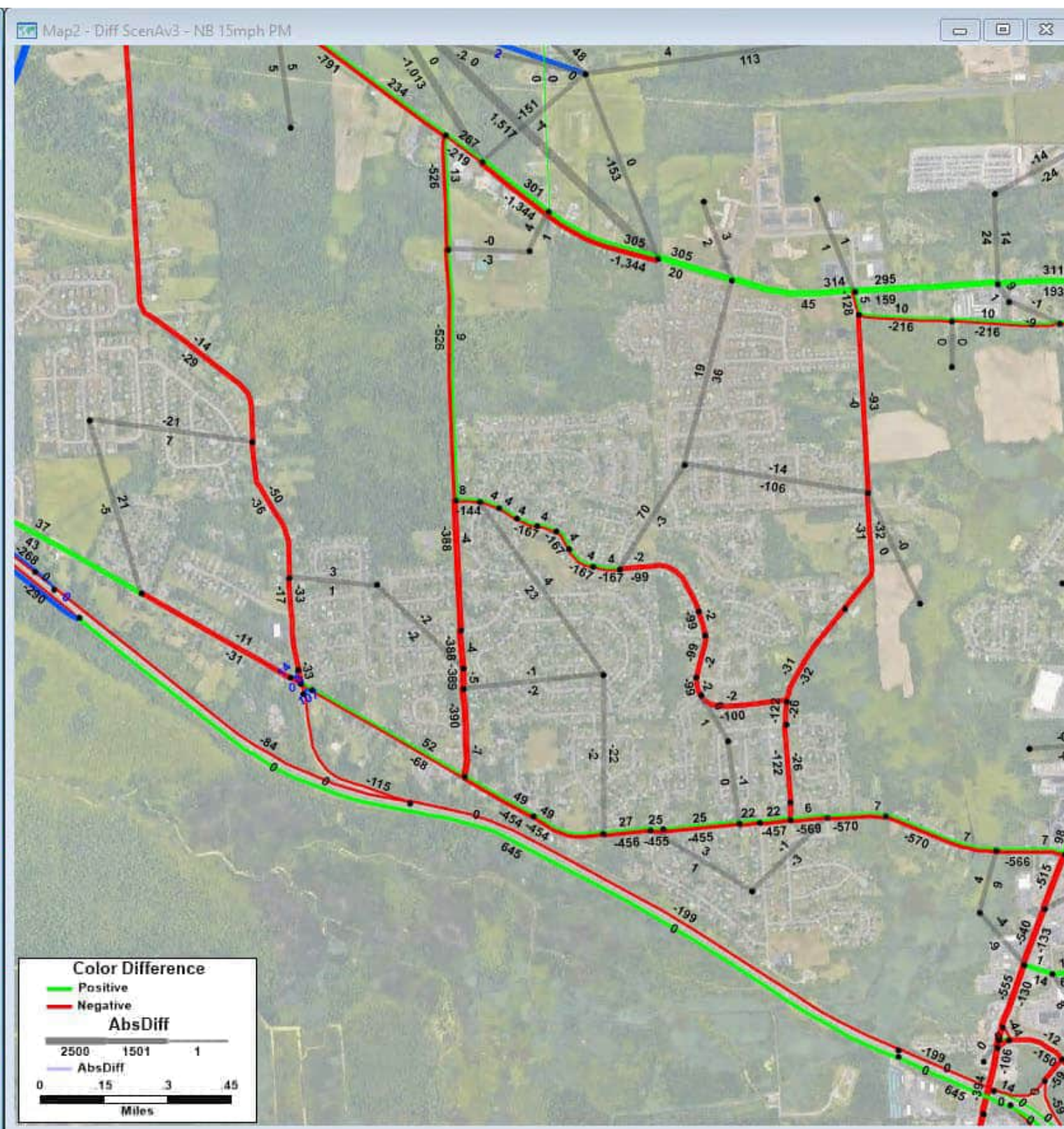
Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)





**2040 No Build PM Volumes - 2020 Existing Conditions PM Volumes = Change in PM Volumes**

No Build: All future land use and anticipated transportation projects but no Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



**2040 Scenario A v3 PM Volumes - 2040 No Build PM Volumes = Change in PM Volumes**

Build: All future land use and anticipated transportation projects with Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)





**2040 No Build PM Volumes - 2020 Existing Conditions PM Volumes = Change in PM Volumes**

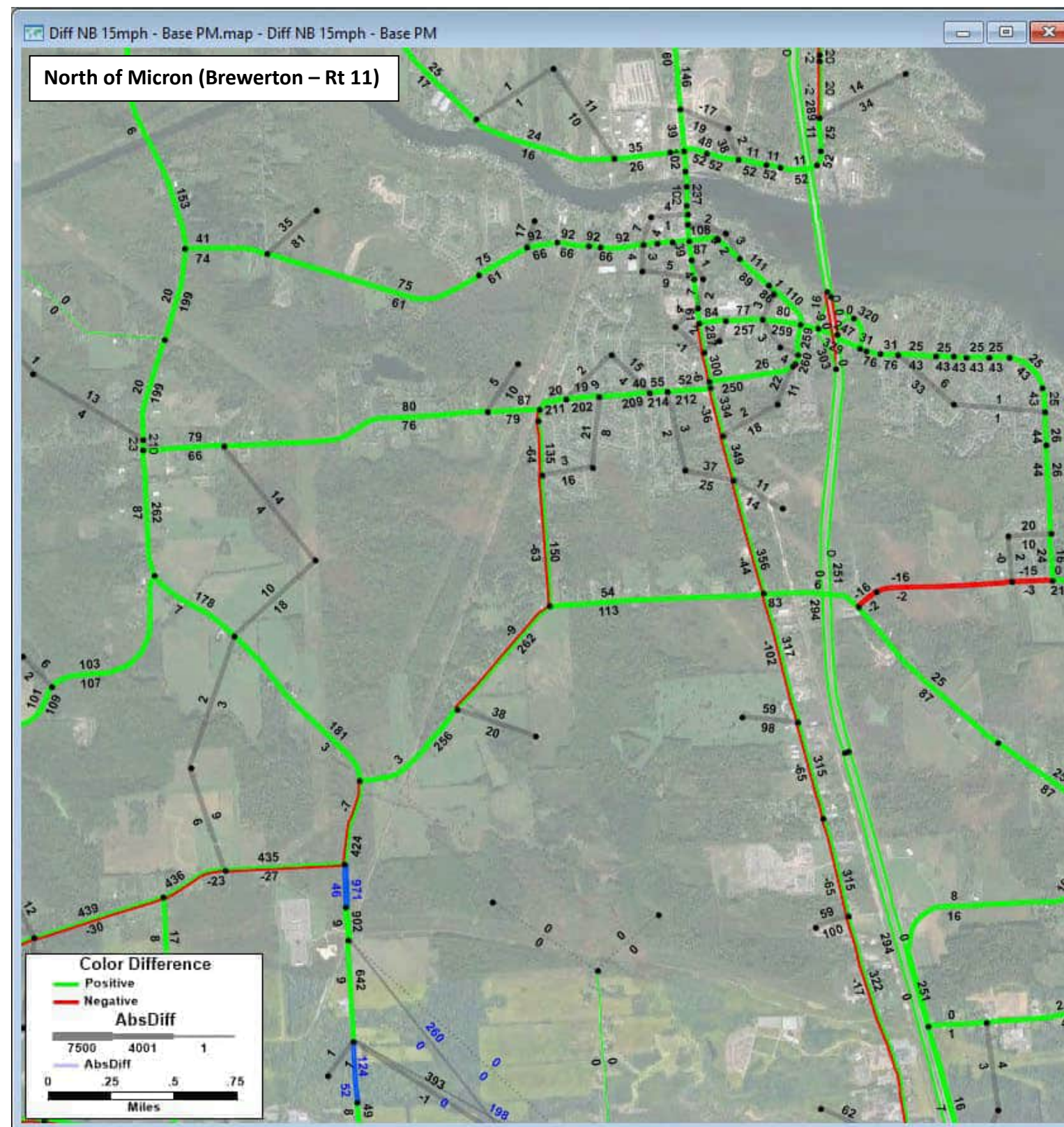
No Build: All future land use and anticipated transportation projects but no Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



**2040 Scenario A v3 PM Volumes - 2040 No Build PM Volumes = Change in PM Volumes**

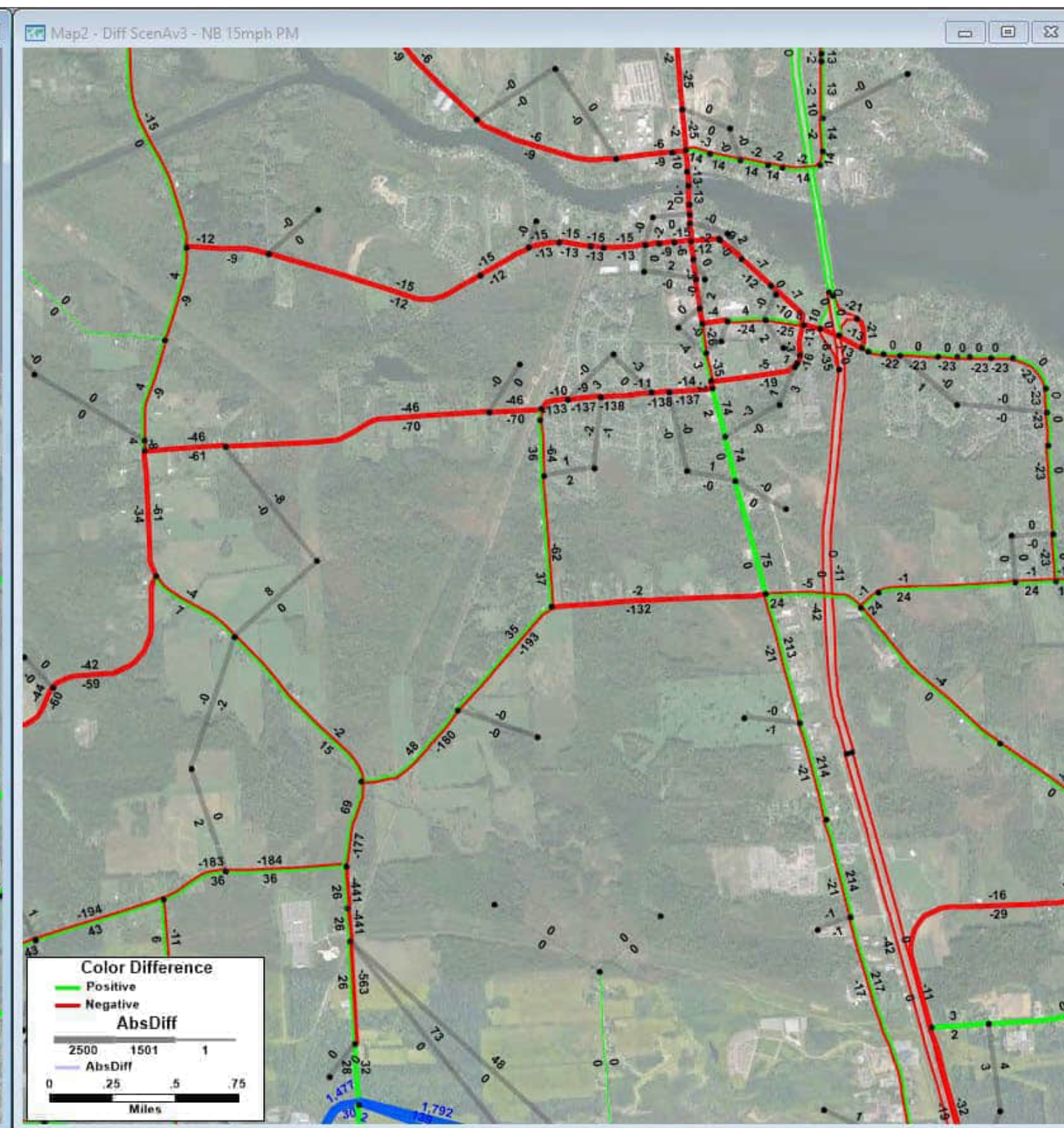
Build: All future land use and anticipated transportation projects with Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)





**2040 No Build PM Volumes - 2020 Existing Conditions PM Volumes = Change in PM Volumes**

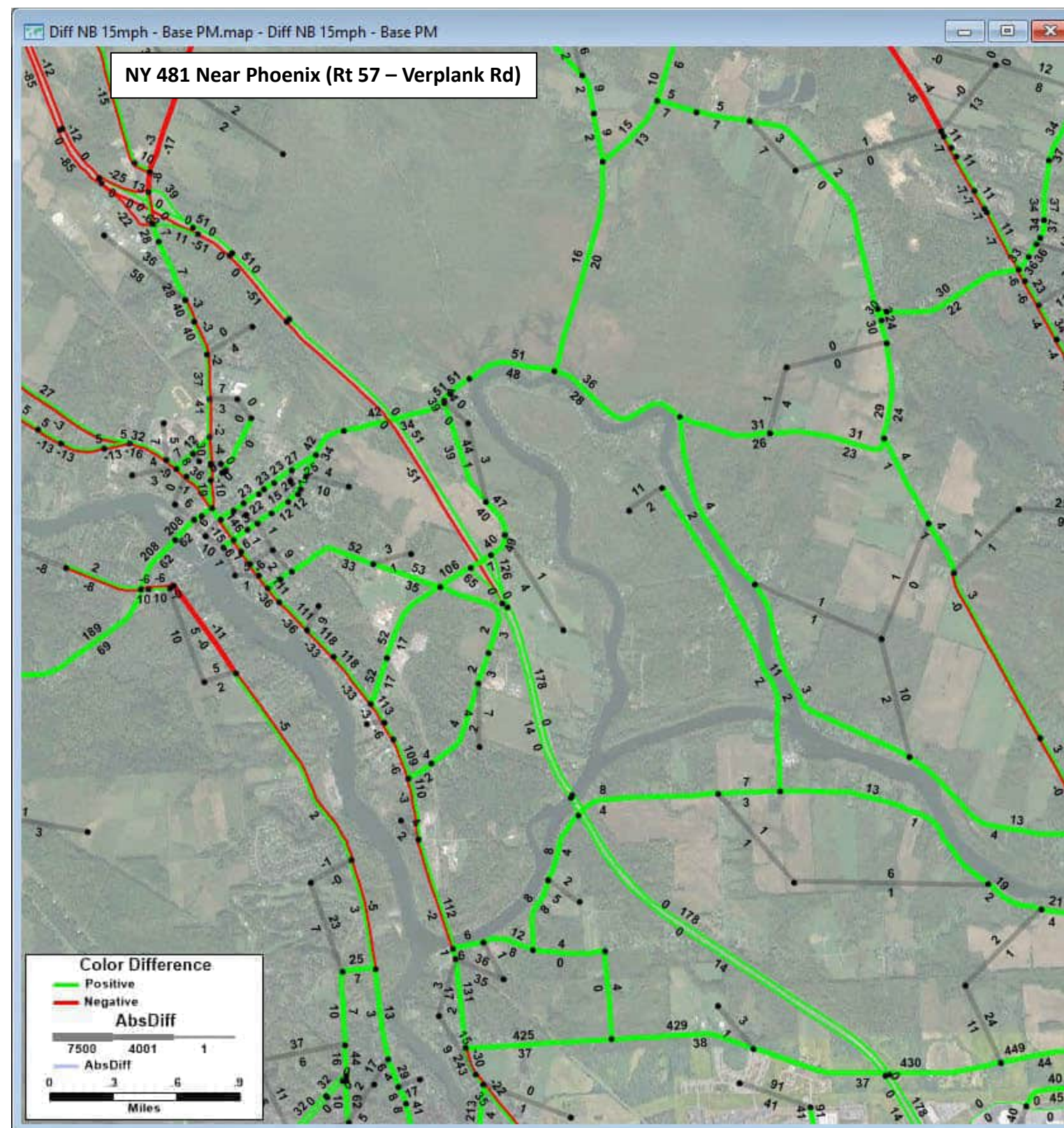
No Build: All future land use and anticipated transportation projects but no Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



**2040 Scenario A v3 PM Volumes - 2040 No Build PM Volumes = Change in PM Volumes**

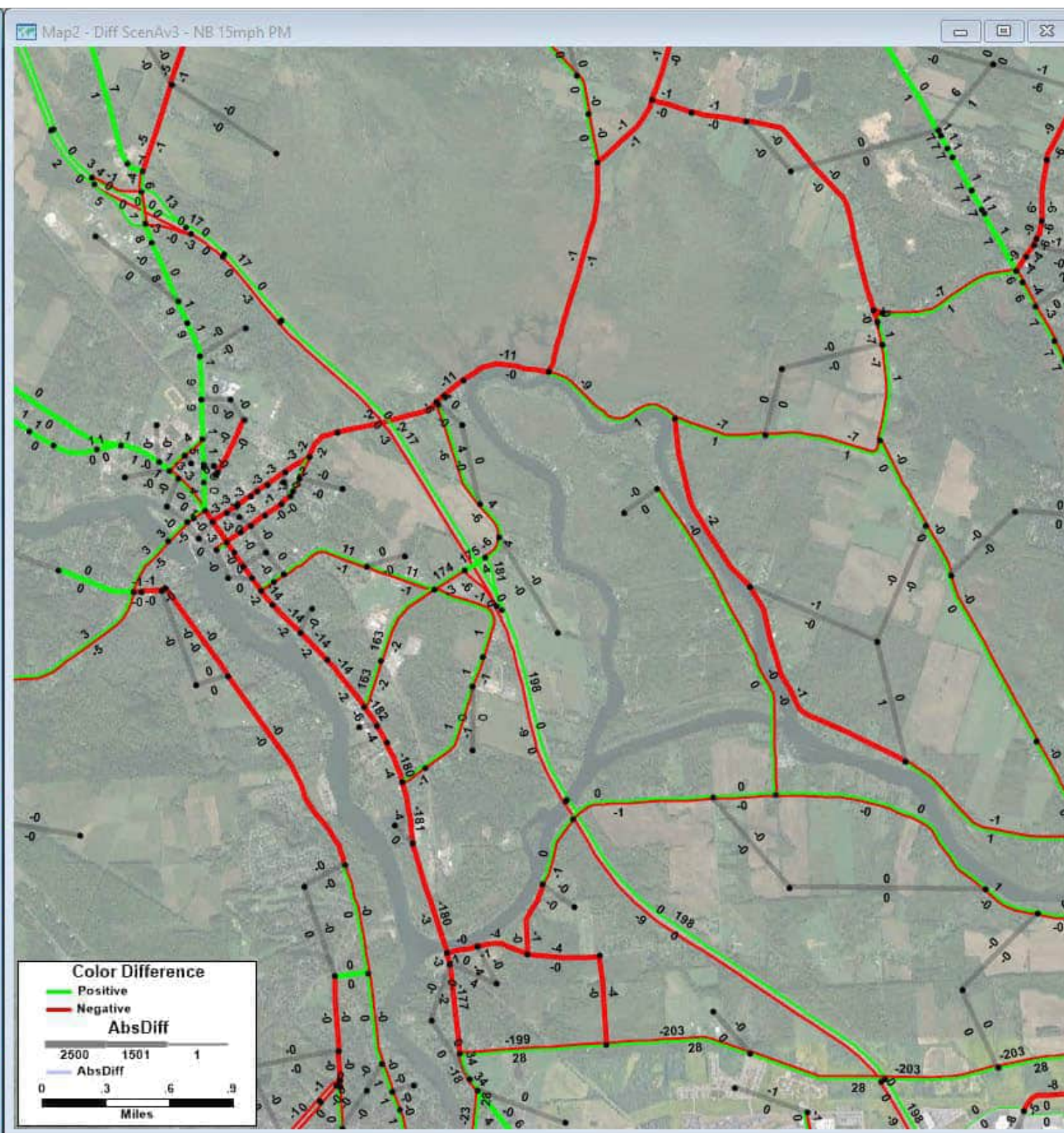
Build: All future land use and anticipated transportation projects with Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)





**2040 No Build PM Volumes - 2020 Existing Conditions PM Volumes = Change in PM Volumes**

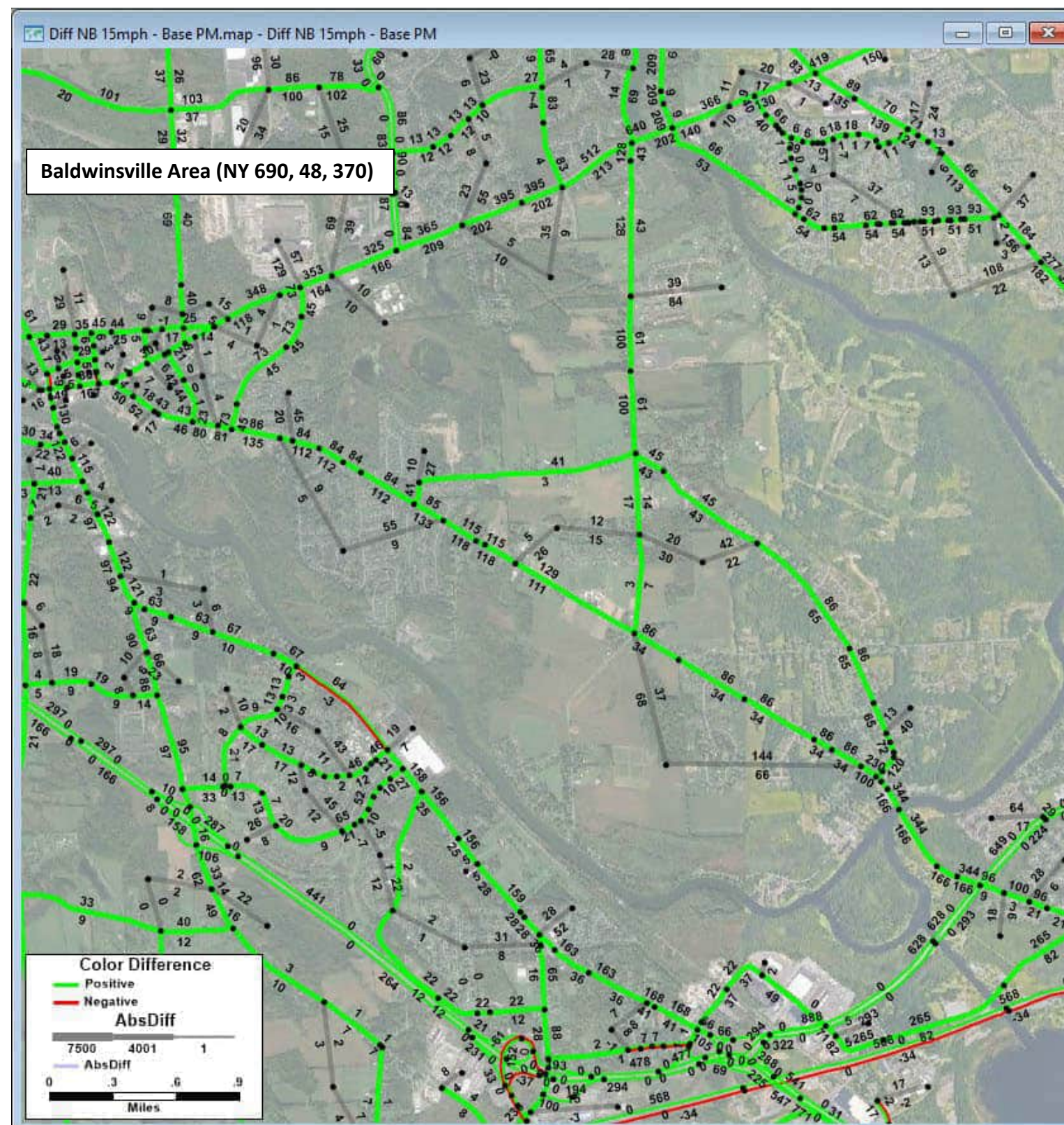
No Build: All future land use and anticipated transportation projects but no Scenario A network changes  
Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



**2040 Scenario A v3 PM Volumes - 2040 No Build PM Volumes = Change in PM Volumes**

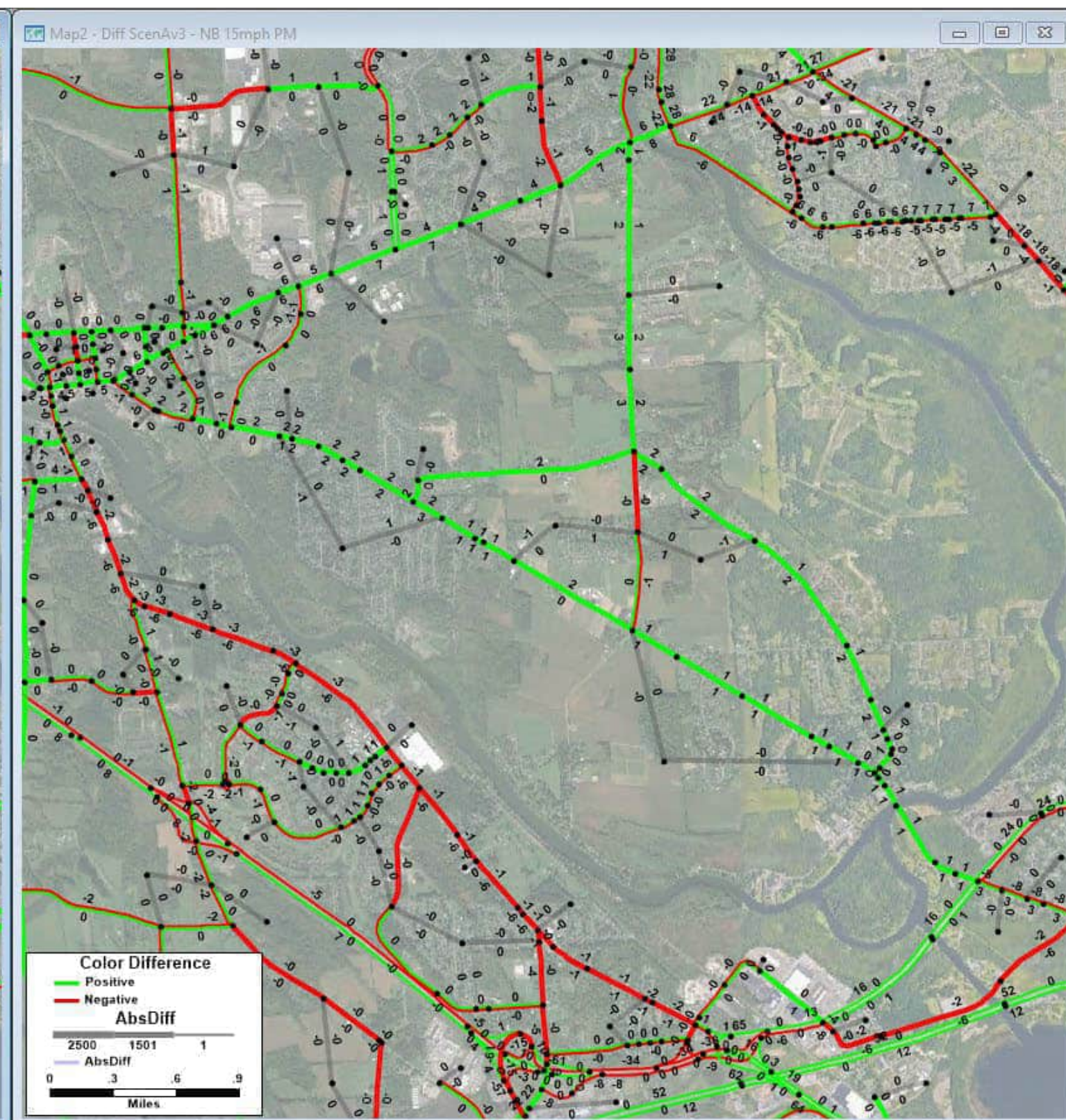
Build: All future land use and anticipated transportation projects with Scenario A network changes  
Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)





2040 No Build PM Volumes - 2020 Existing Conditions PM Volumes = Change in PM Volumes

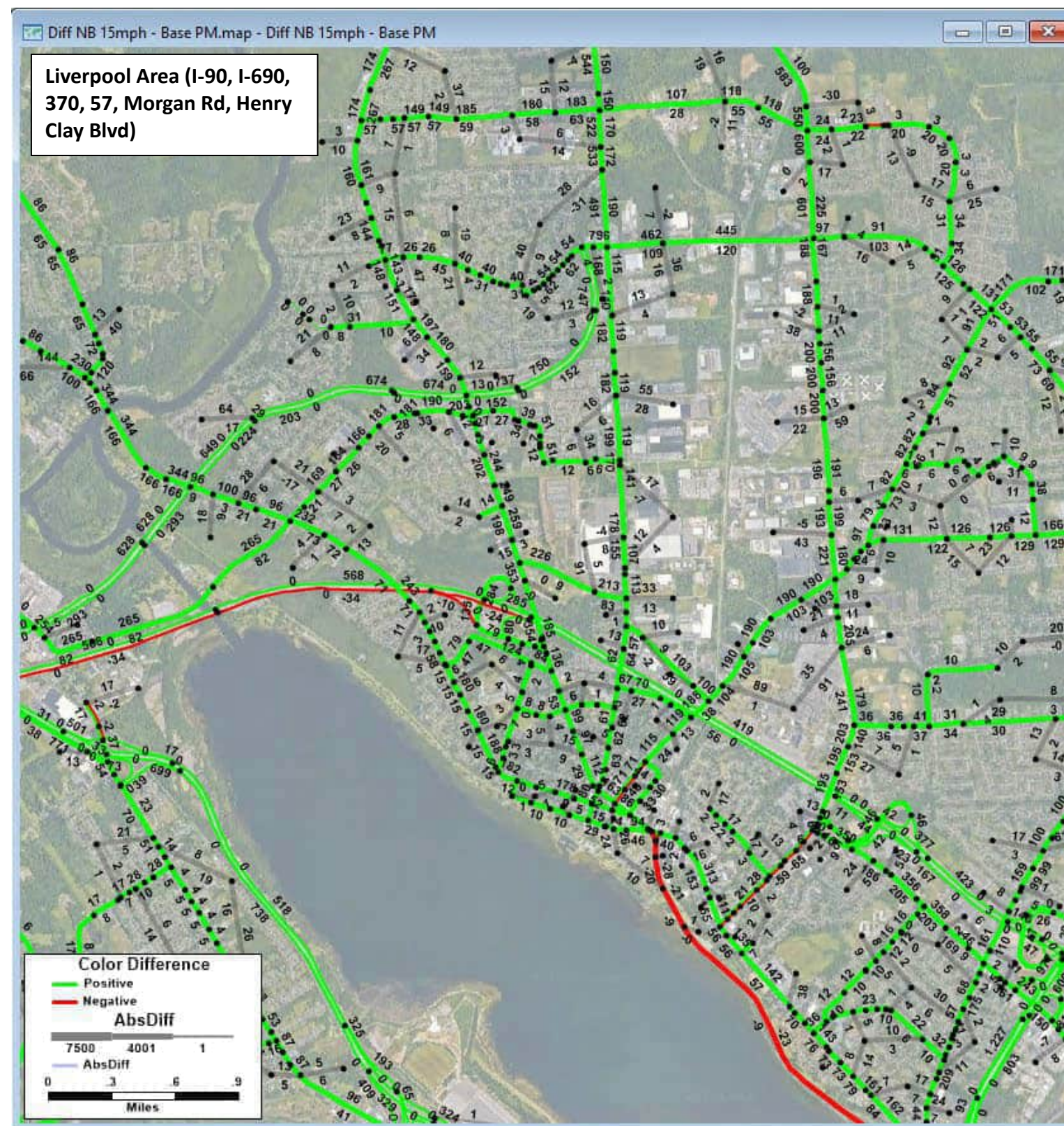
No Build: All future land use and anticipated transportation projects but no Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



2040 Scenario A v3 PM Volumes - 2040 No Build PM Volumes = Change in PM Volumes

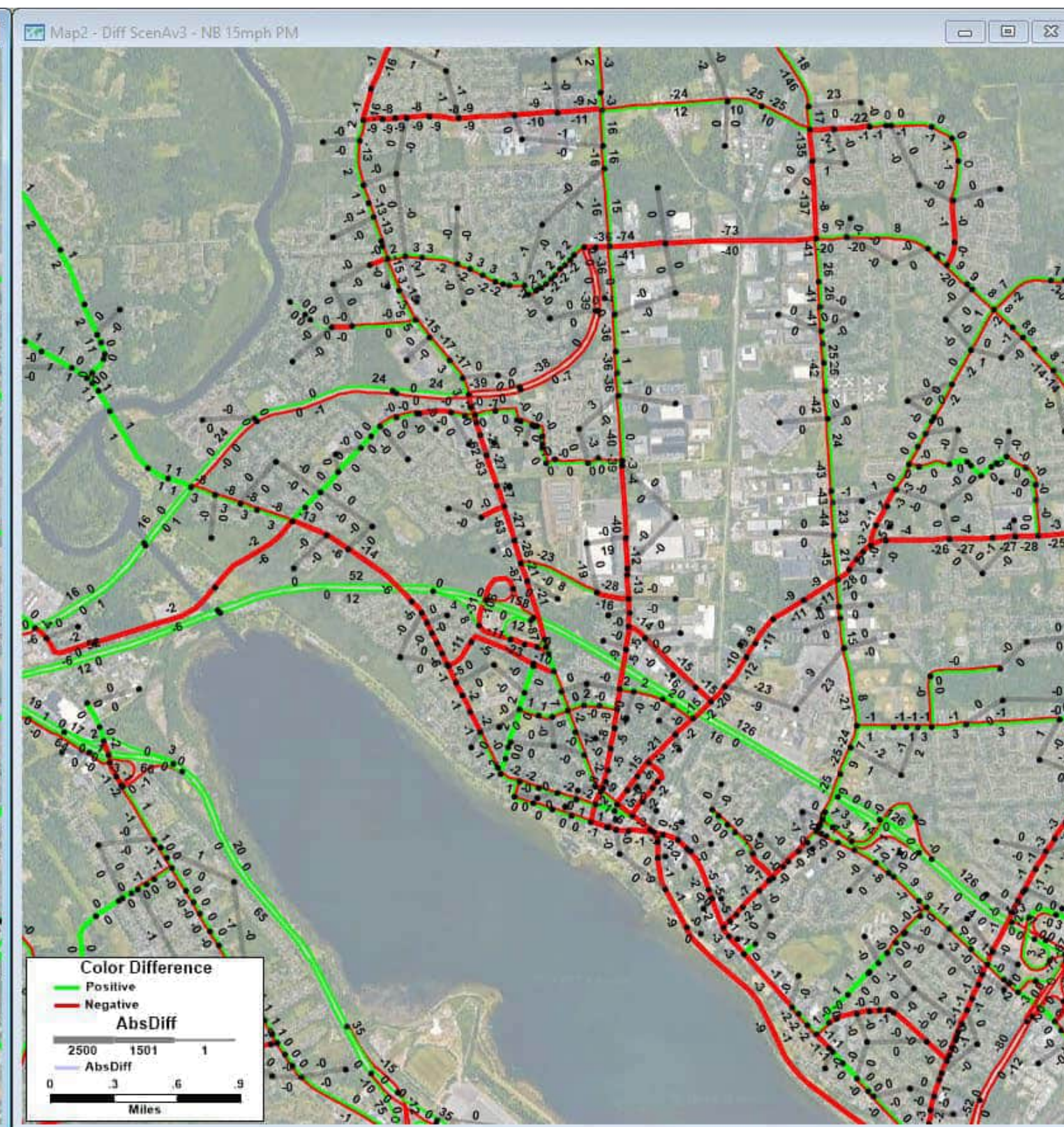
Build: All future land use and anticipated transportation projects with Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)





**2040 No Build PM Volumes - 2020 Existing Conditions PM Volumes = Change in PM Volumes**

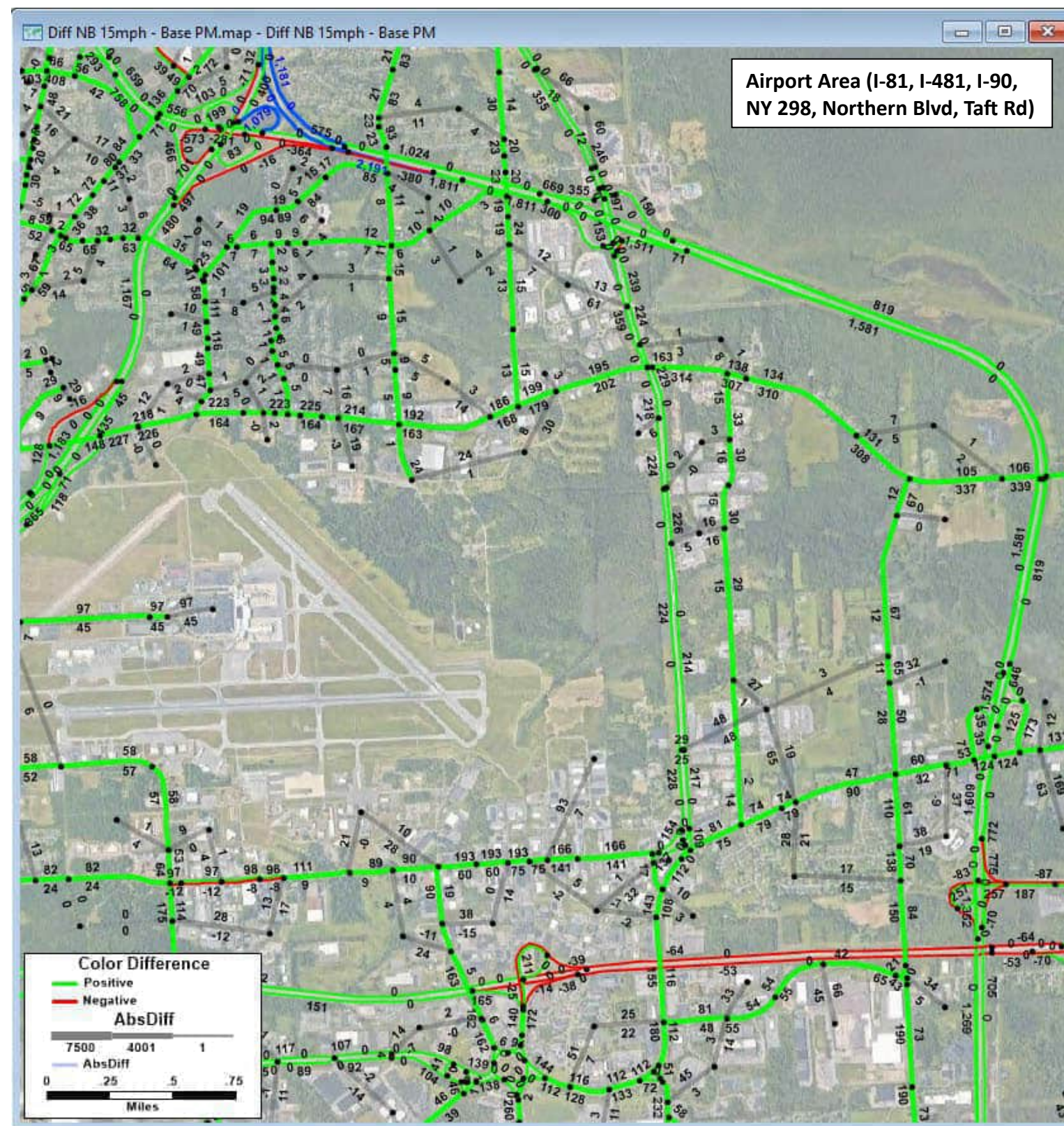
No Build: All future land use and anticipated transportation projects but no Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



**2040 Scenario A v3 PM Volumes - 2040 No Build PM Volumes = Change in PM Volumes**

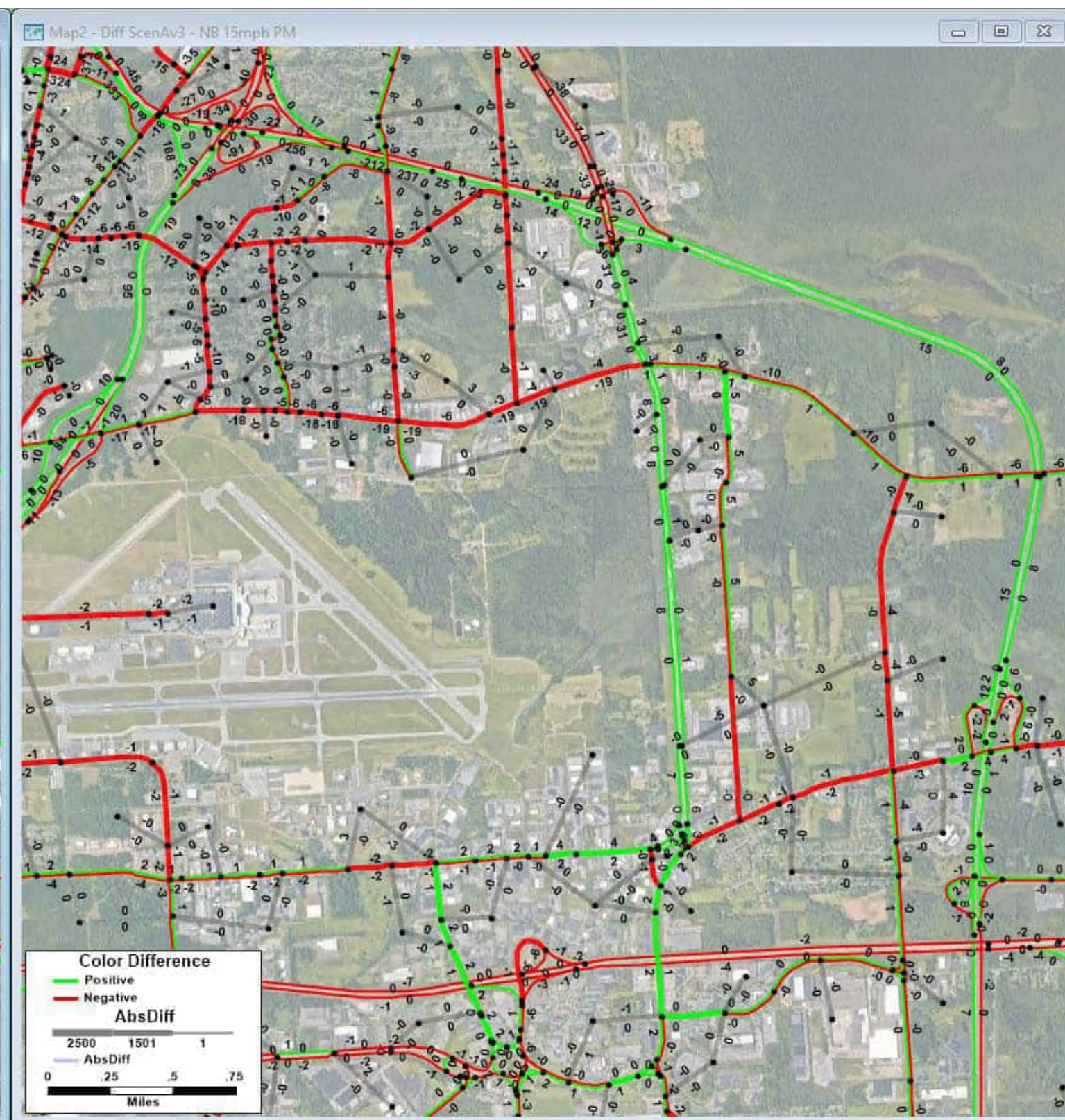
Build: All future land use and anticipated transportation projects with Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)





**2040 No Build PM Volumes - 2020 Existing Conditions PM Volumes = Change in PM Volumes**

No Build: All future land use and anticipated transportation projects but no Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



**2040 Scenario A v3 PM Volumes - 2040 No Build PM Volumes = Change in PM Volumes**

Build: All future land use and anticipated transportation projects with Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

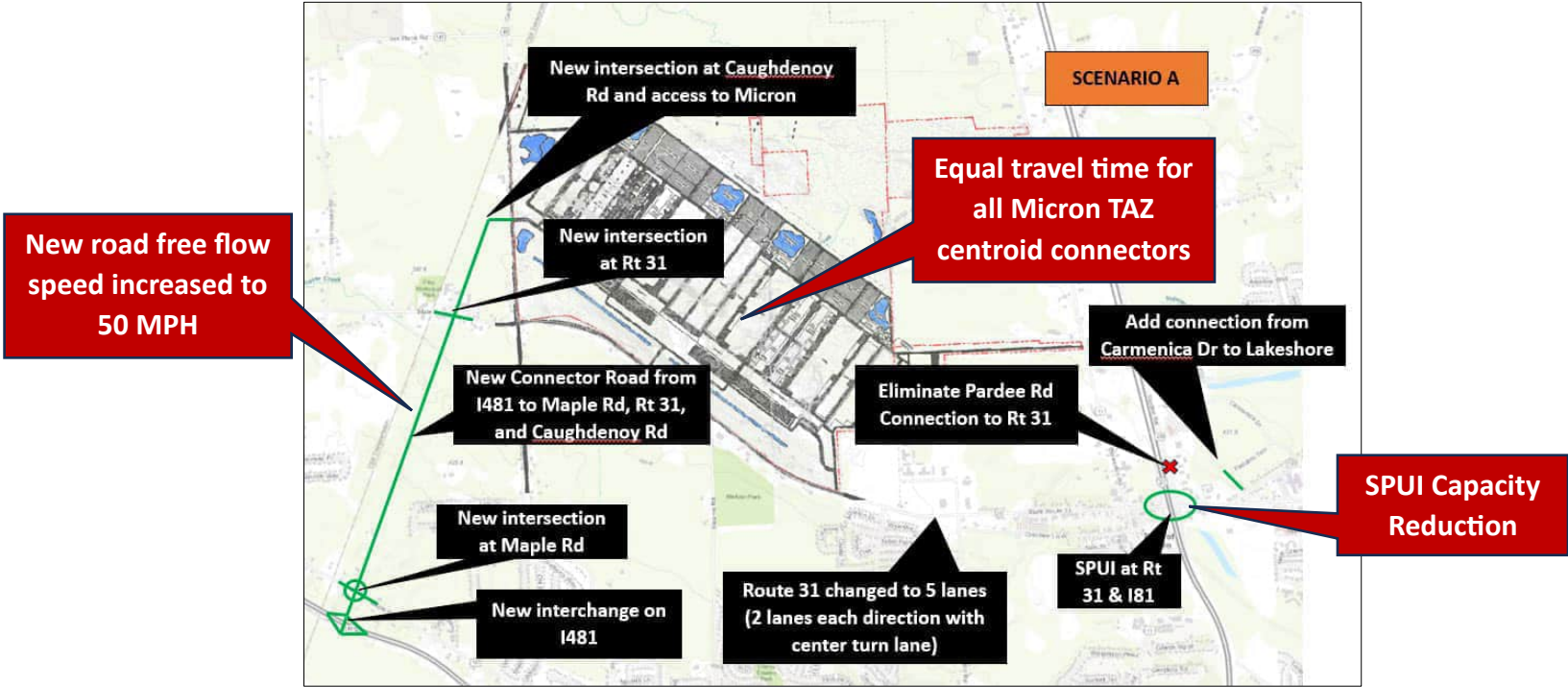


SMTC Travel Demand Model Results: **Scenario A v4** (Scenario A v3 and Rt31 SPUI Capacity Decrease) – **AM PEAK HOUR CHANGE IN VOLUMES**

The graphic to the right shows the general assumptions for **Scenario A v4** →

Notes:

- All 2040 scenarios include projected future land use growth (including Micron)
- No Build in this document refers to no Micron related road network changes
- **RED** callouts note the revisions made to Scenario A



The graphic to the right is an example of what is included in this document →

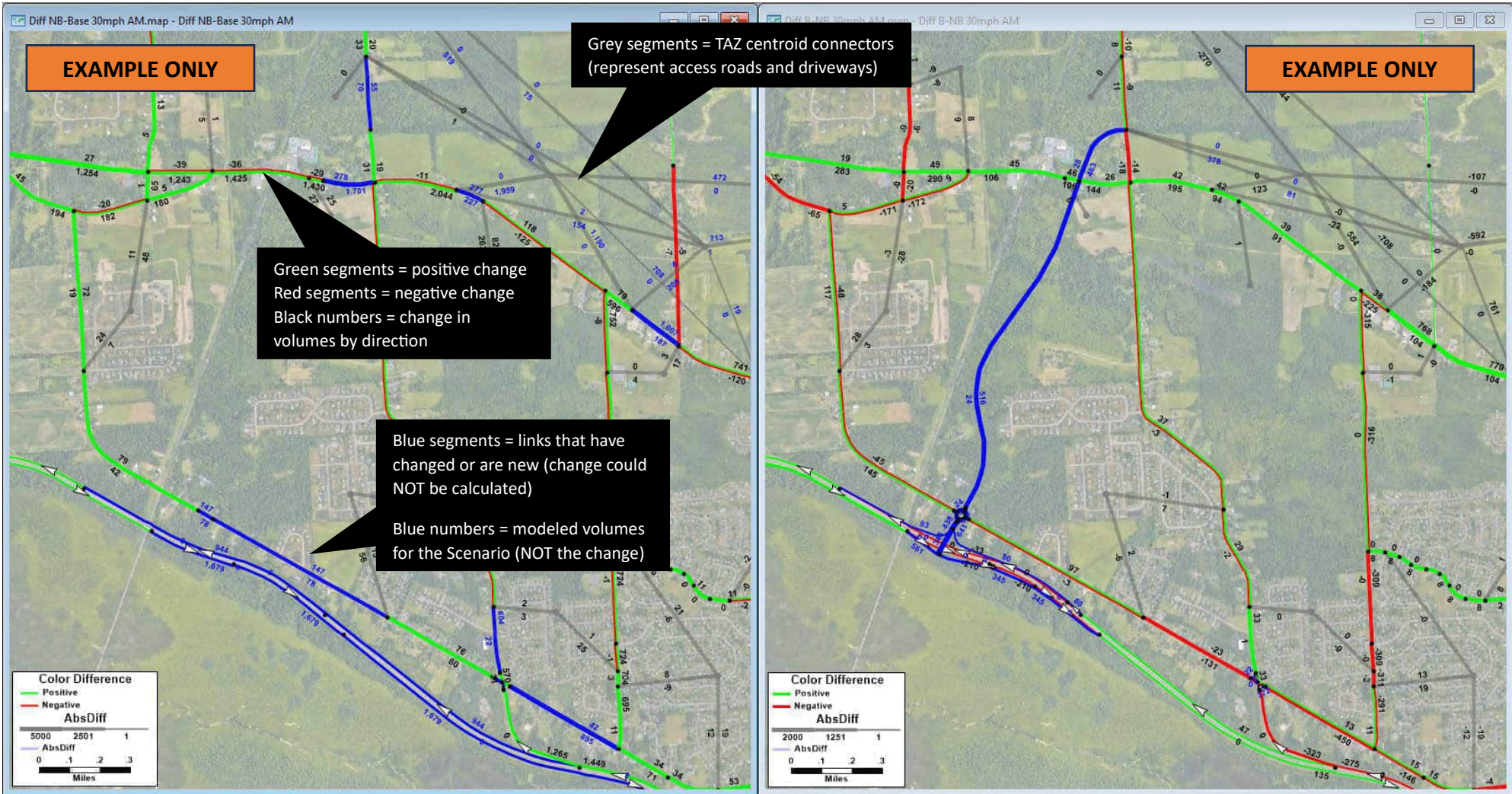
The map on the left displays the change in **AM** volumes between the 2020 existing conditions base model to the 2040 No Build (**2040 NB AM Volumes less 2020 AM volumes**). No Build in this case refers to no network improvements, the build future land use conditions are included (including Micron).

The map on the right displays the change in **AM** volumes between the 2040 No Build to the 2040 Scenario "X" Build (**2040 Scenario "X" Build AM Volumes less 2040 NB AM volumes**).

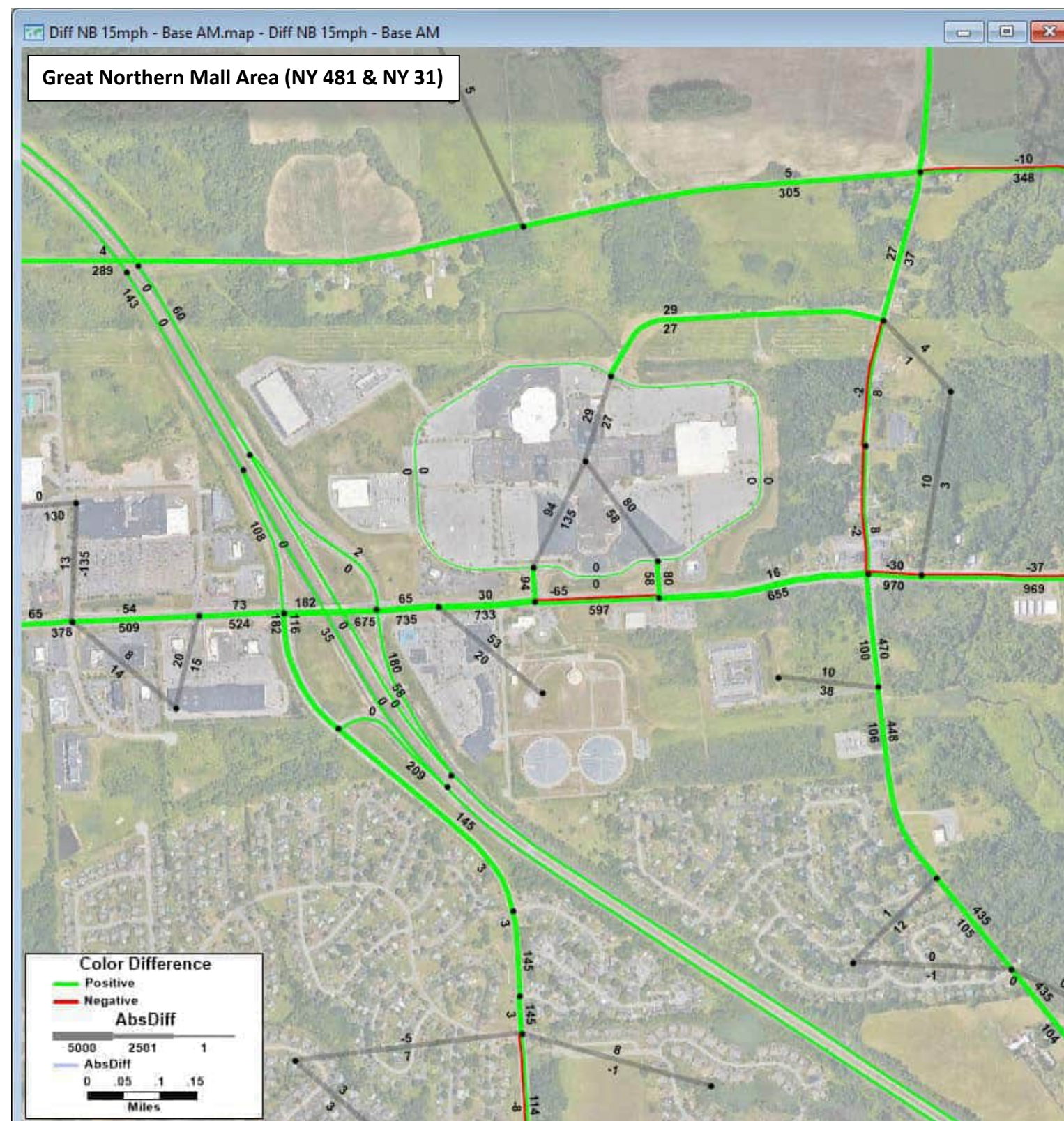
MAP NOTES:

- **Green** segments = positive change between identified scenarios
- **Red** segments = negative change between identified scenarios
- **Black numbers** = change in volumes by direction
- **Blue** segments = links that have changed or are new for that scenario therefore a change can **NOT** be calculated
- **Blue numbers** = modeled volume by direction on that segment for that scenario (change could NOT be calculated for that link)
- **Gray** segments = TAZ centroid connectors (general representation of access roads and driveways)

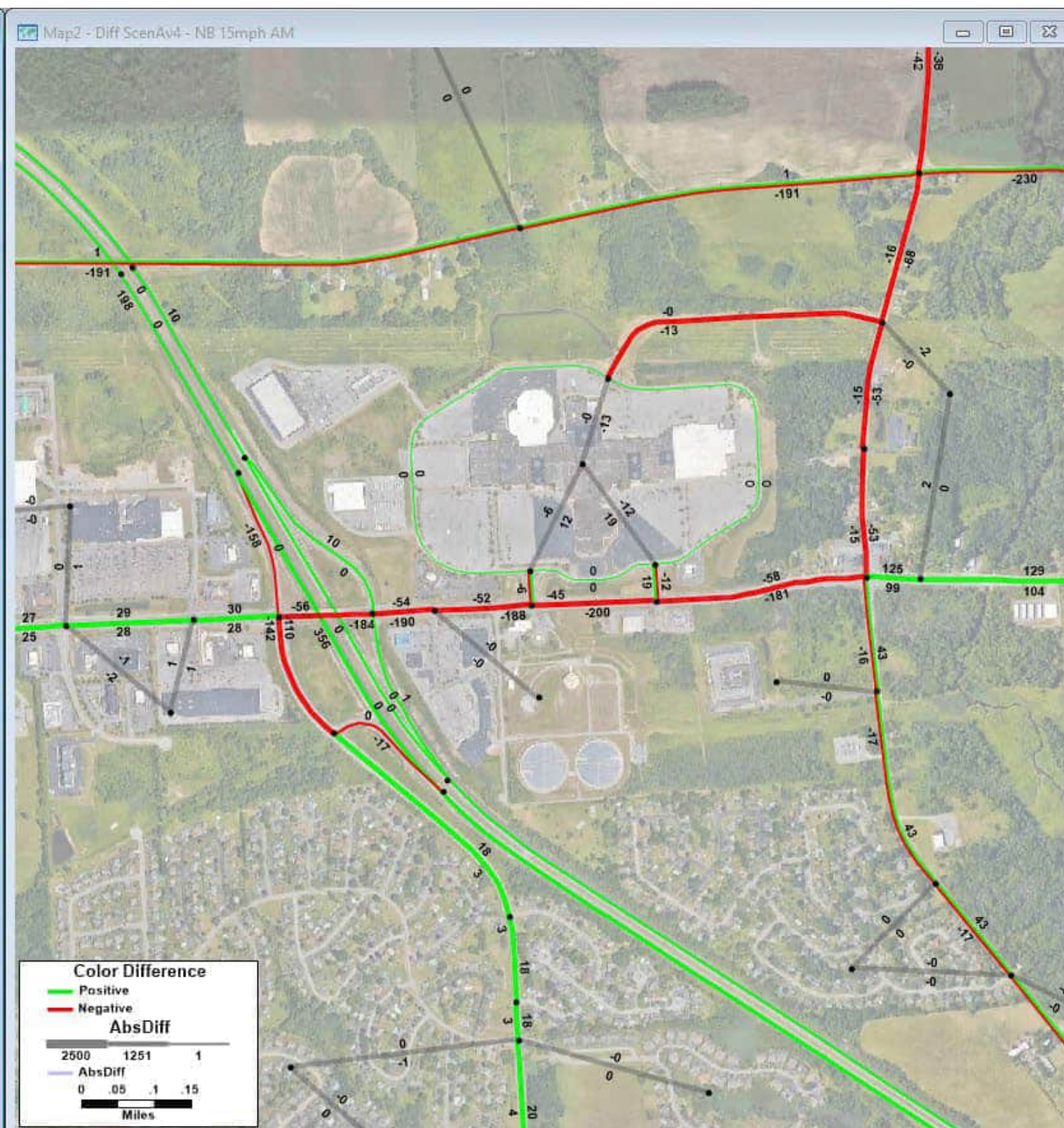
To get total future volume on a segment add up the numbers from both maps and then add that to existing traffic counts.







**2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes**  
No Build: All future land use and anticipated transportation projects but no Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

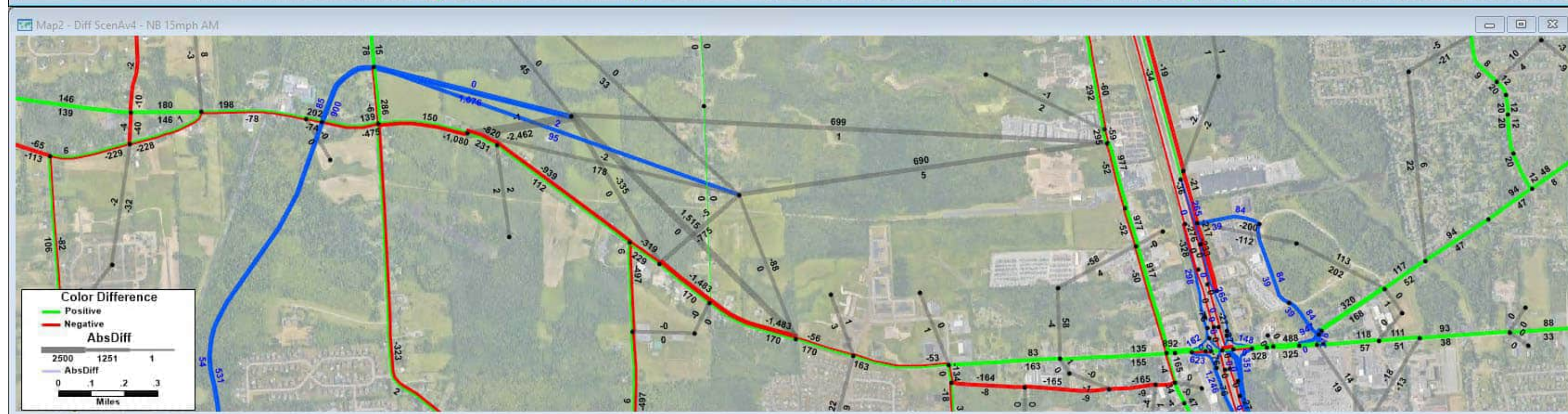
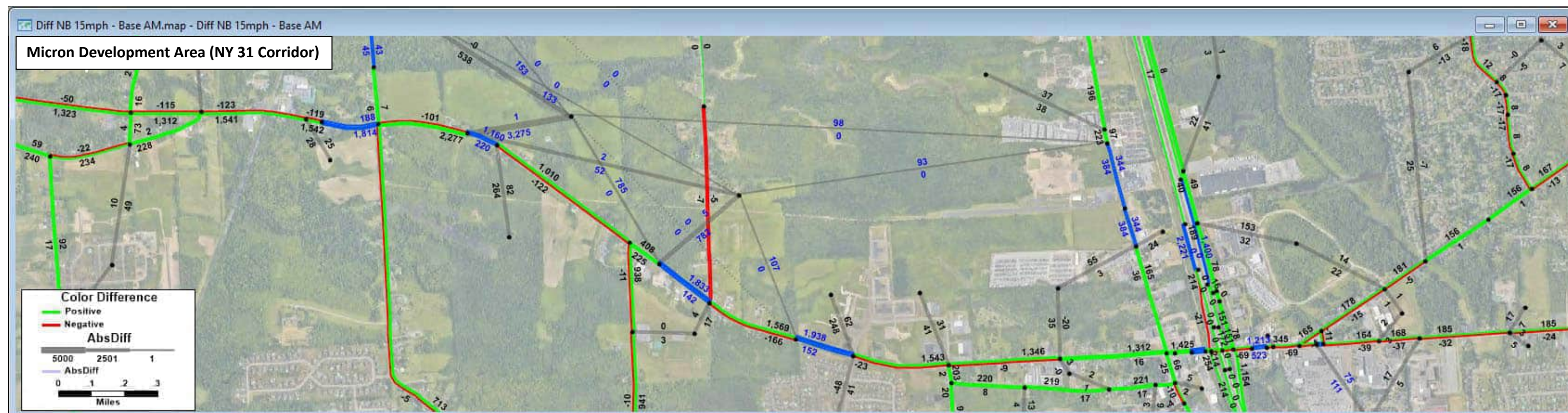


**2040 Scenario A v4 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes**  
Build: All future land use and anticipated transportation projects with Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)





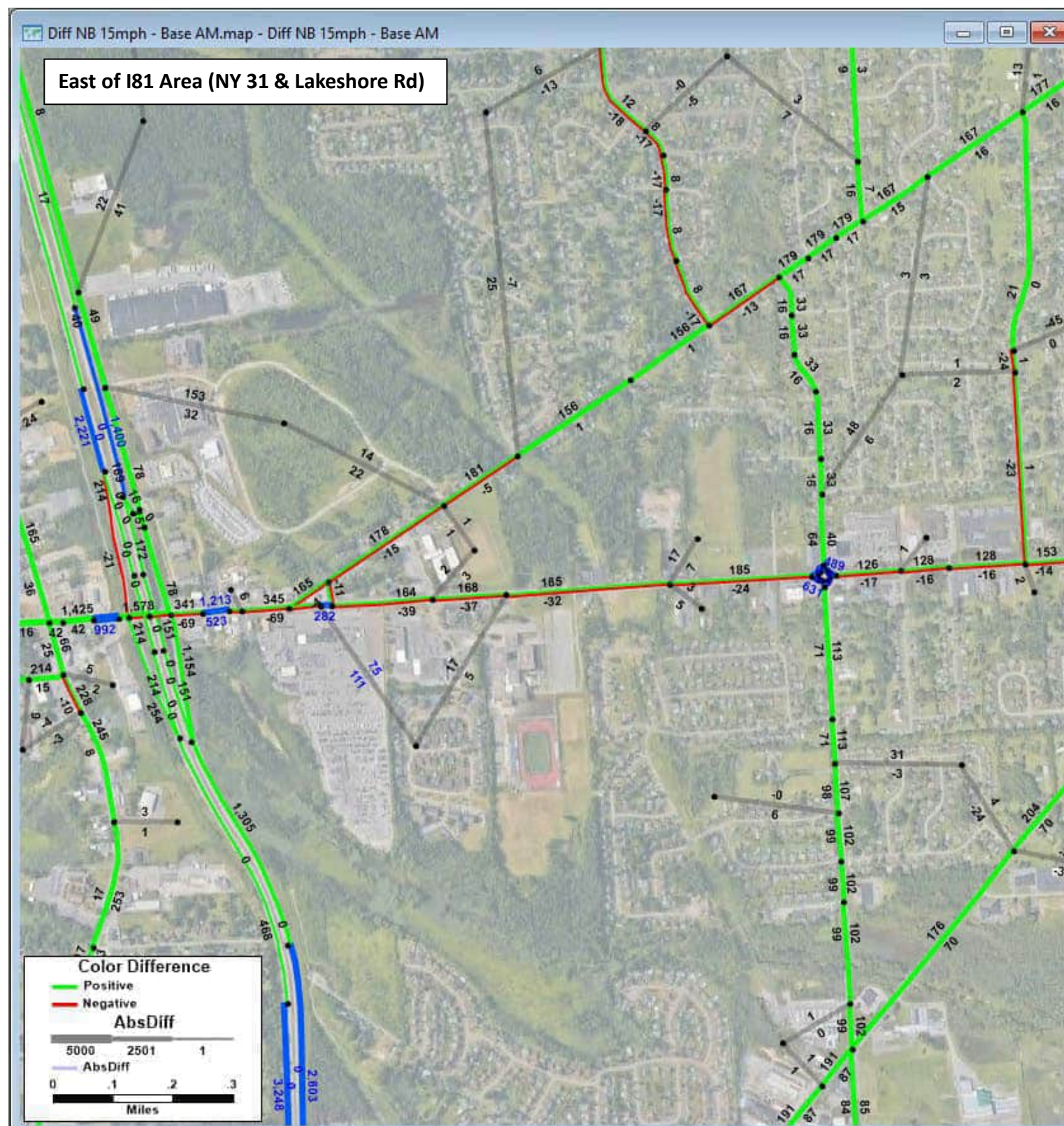




(TOP MAP) 2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes  
No Build: All future land use and anticipated transportation projects but no Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

(Bottom MAP) 2040 Scenario A v4 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes  
Build: All future land use and anticipated transportation projects with Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

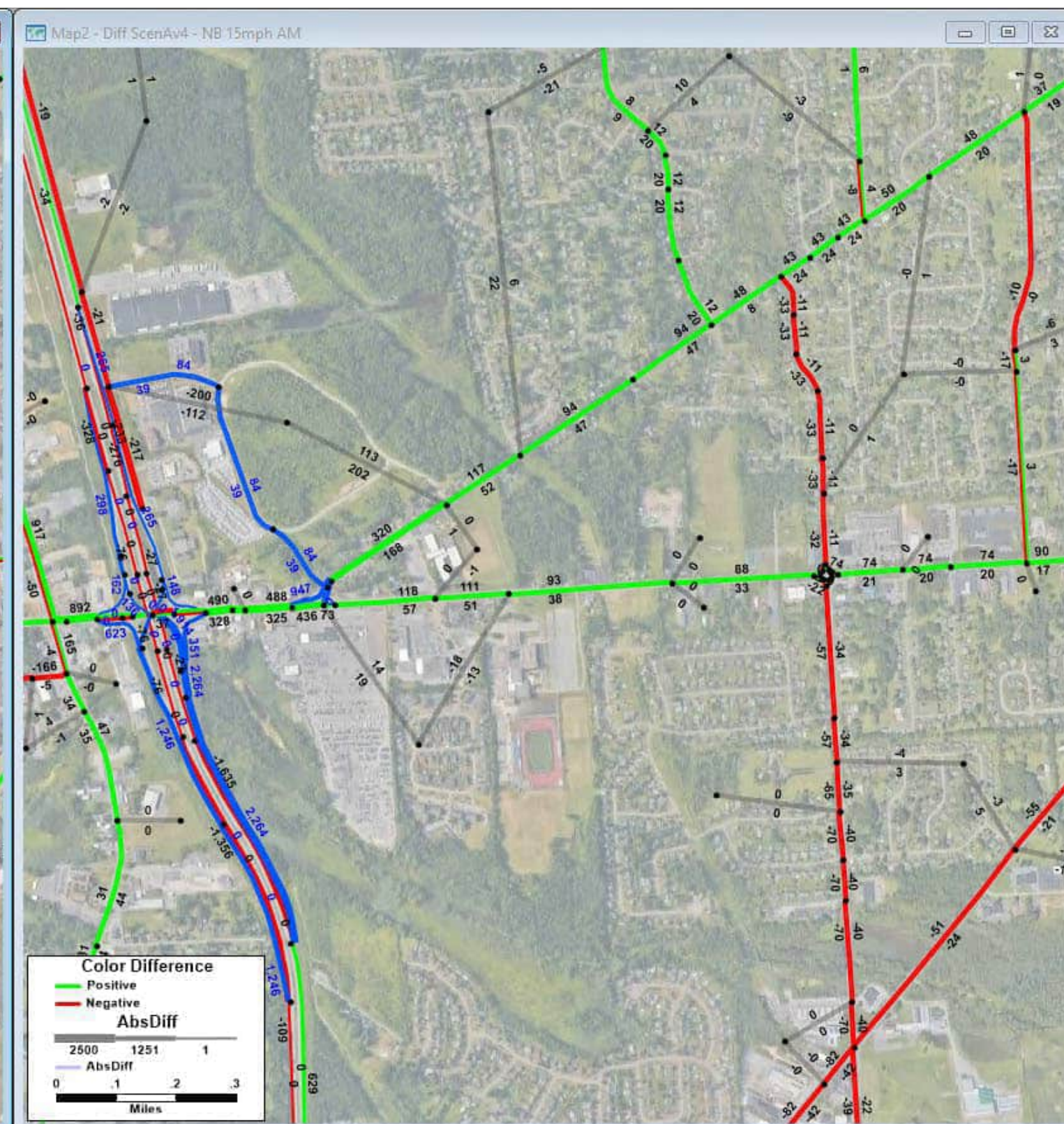




**2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes**

No Build: All future land use and anticipated transportation projects but no Scenario A network changes

Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

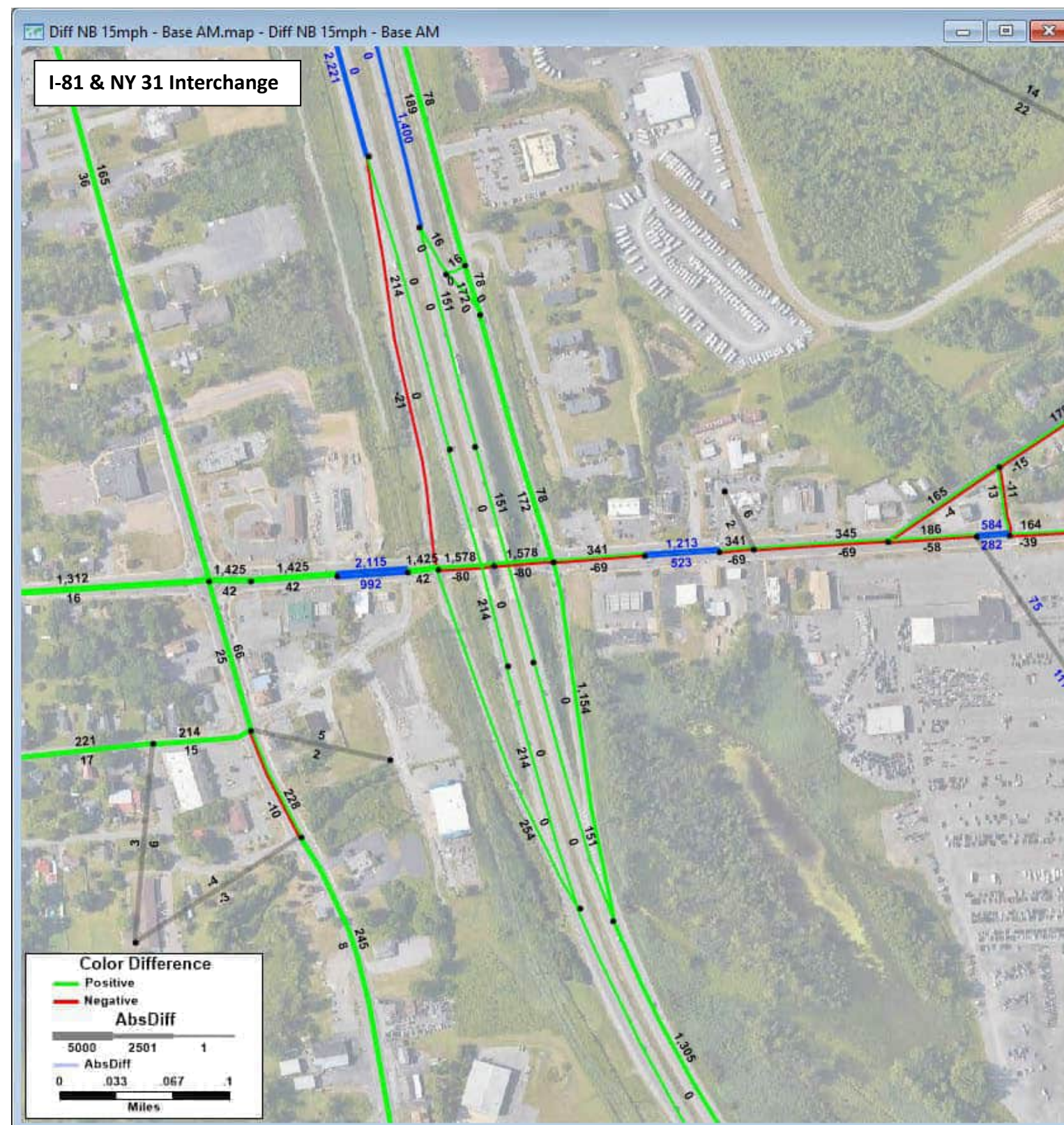


**2040 Scenario A v4 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes**

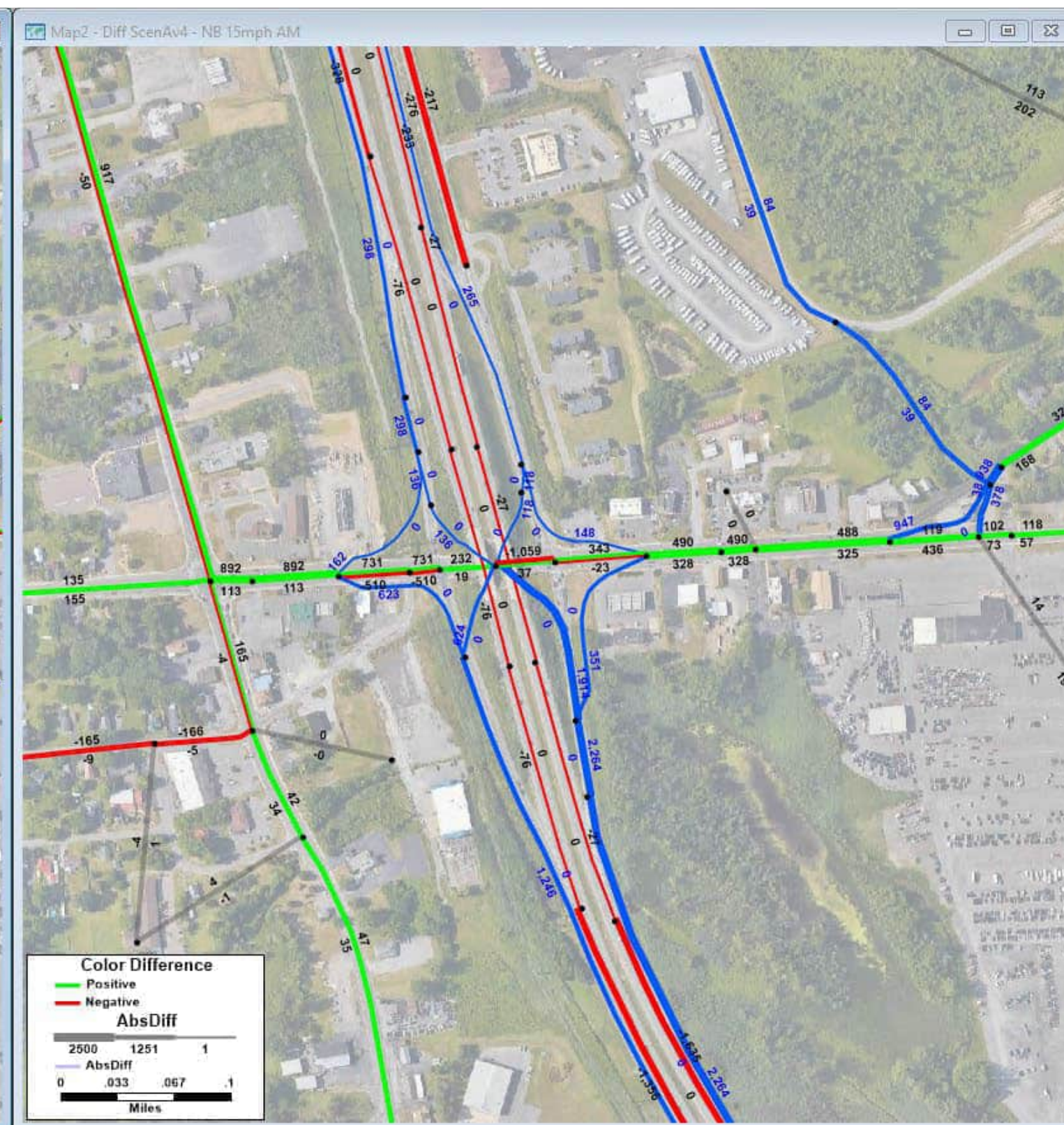
Build: All future land use and anticipated transportation projects with Scenario A network changes

Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



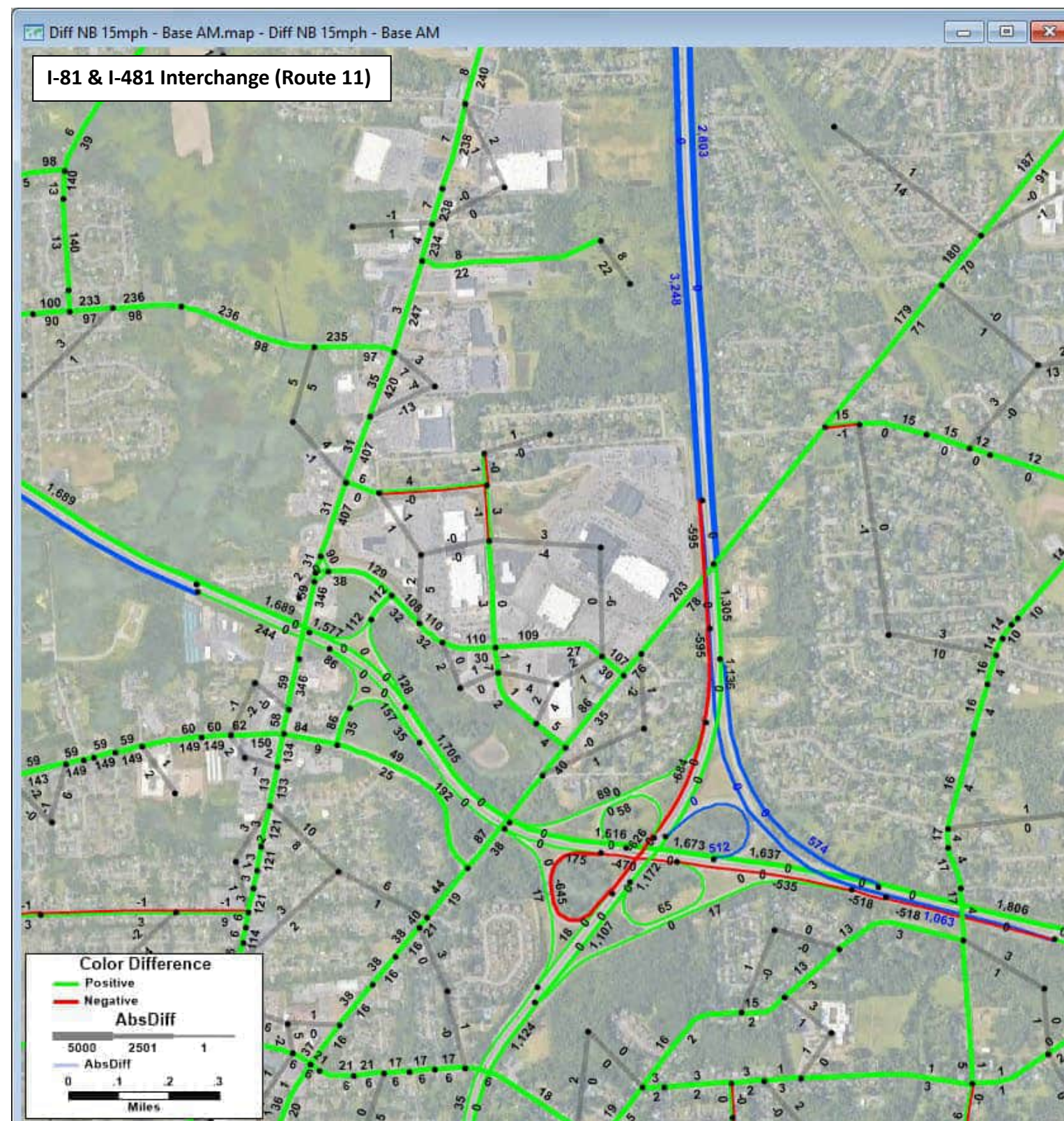


**2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes**  
No Build: All future land use and anticipated transportation projects but no Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



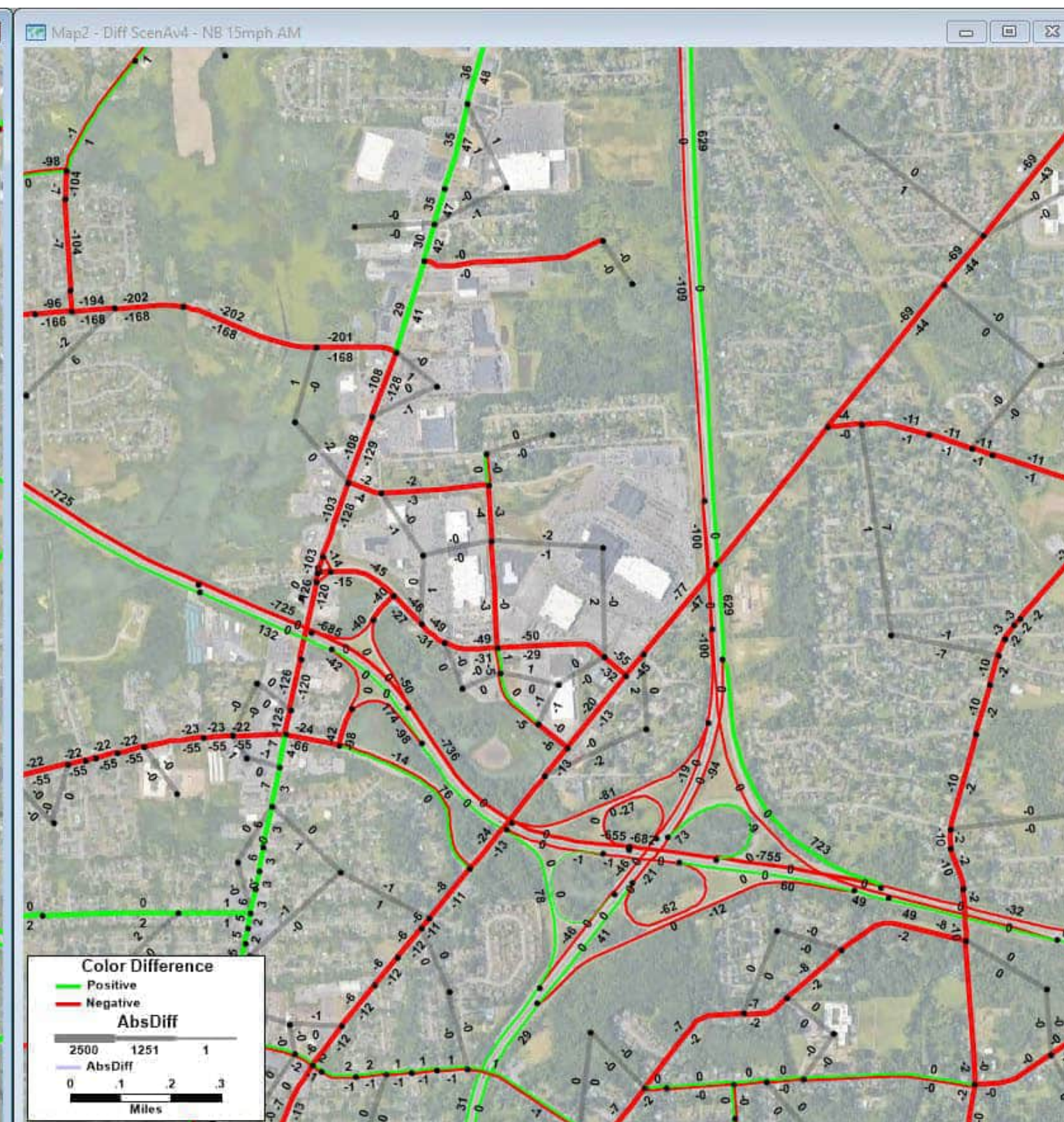
**2040 Scenario A v4 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes**  
Build: All future land use and anticipated transportation projects with Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)





**2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes**

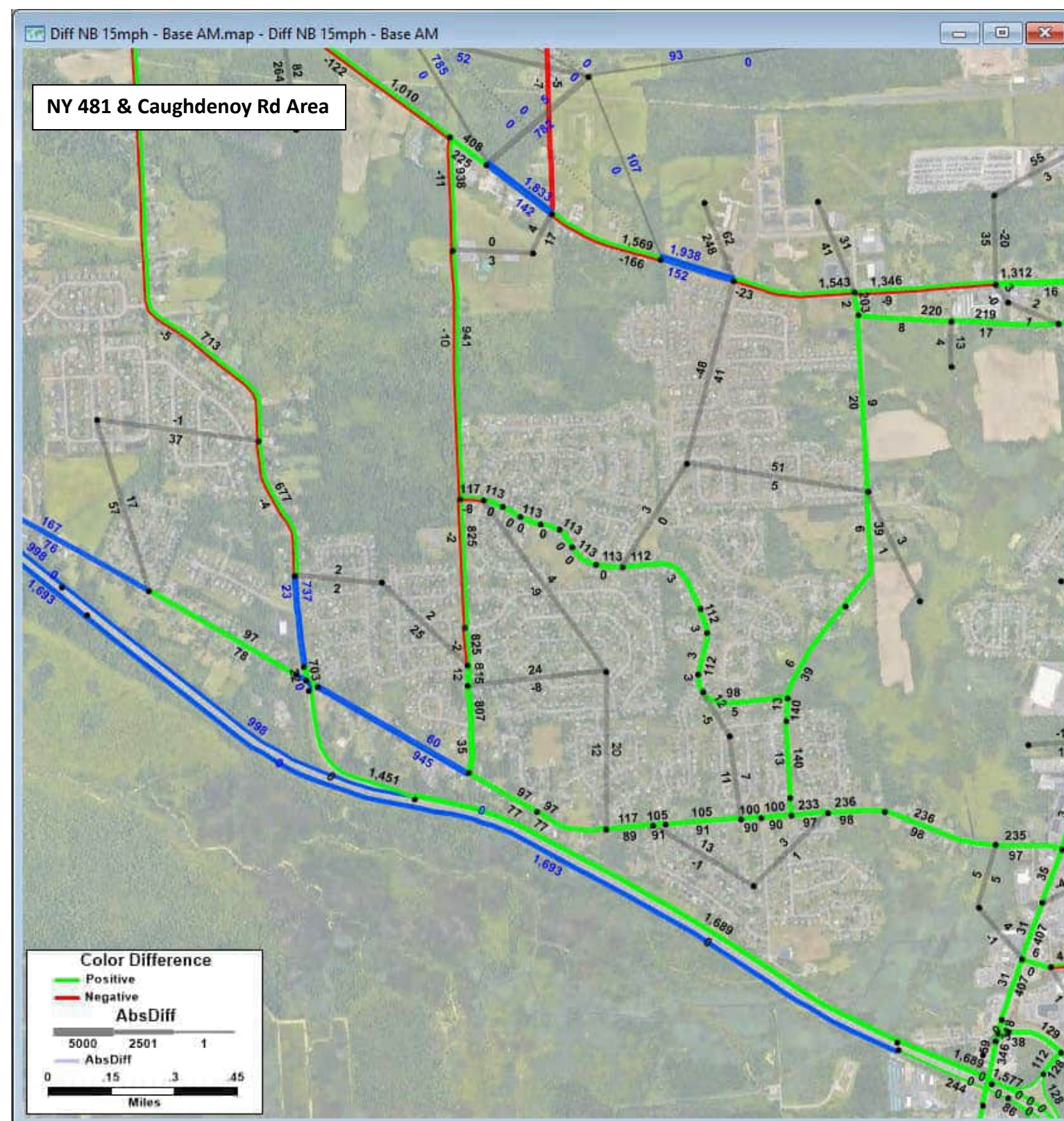
No Build: All future land use and anticipated transportation projects but no Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



**2040 Scenario A v4 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes**

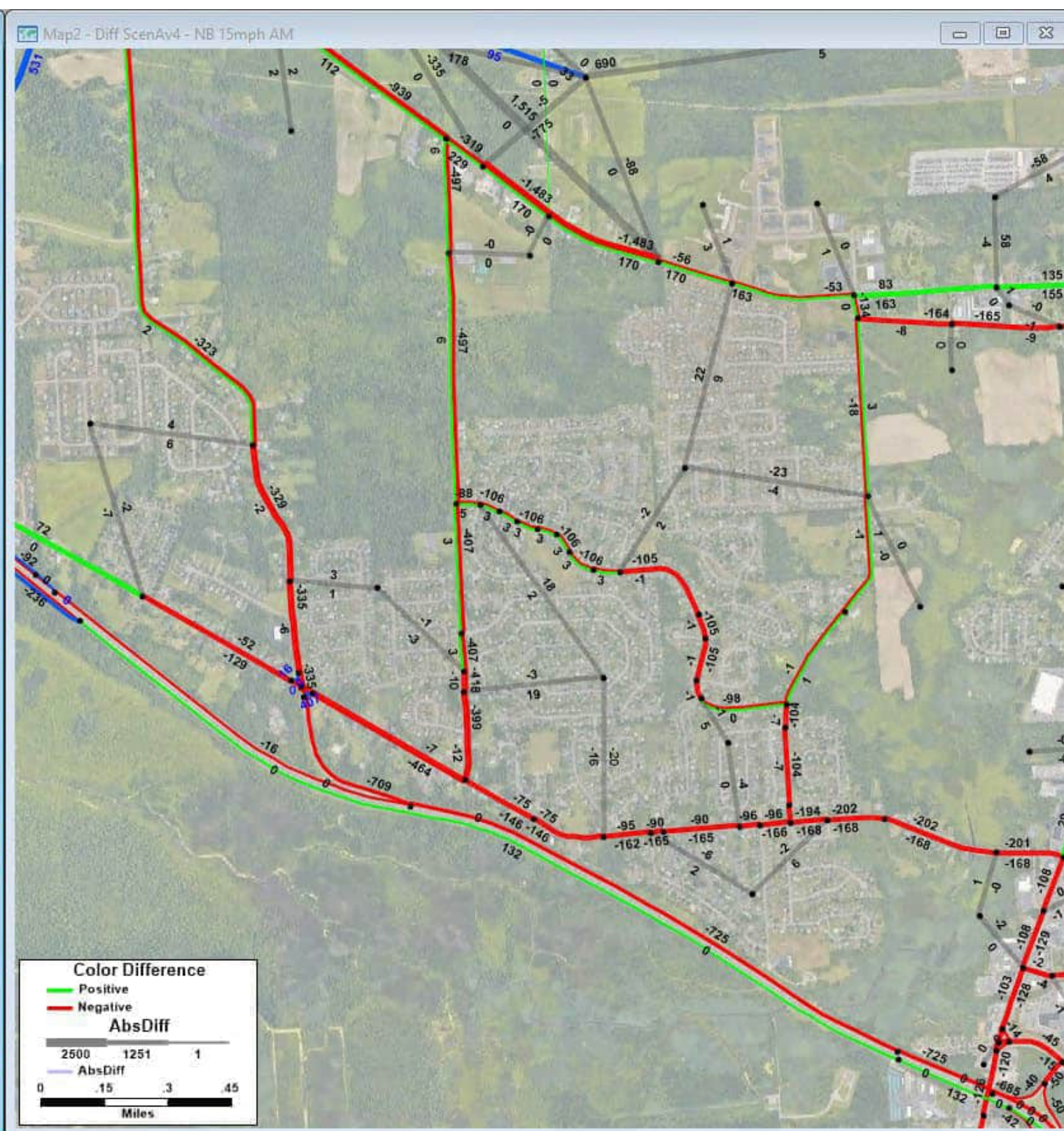
Build: All future land use and anticipated transportation projects with Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)





**2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes**

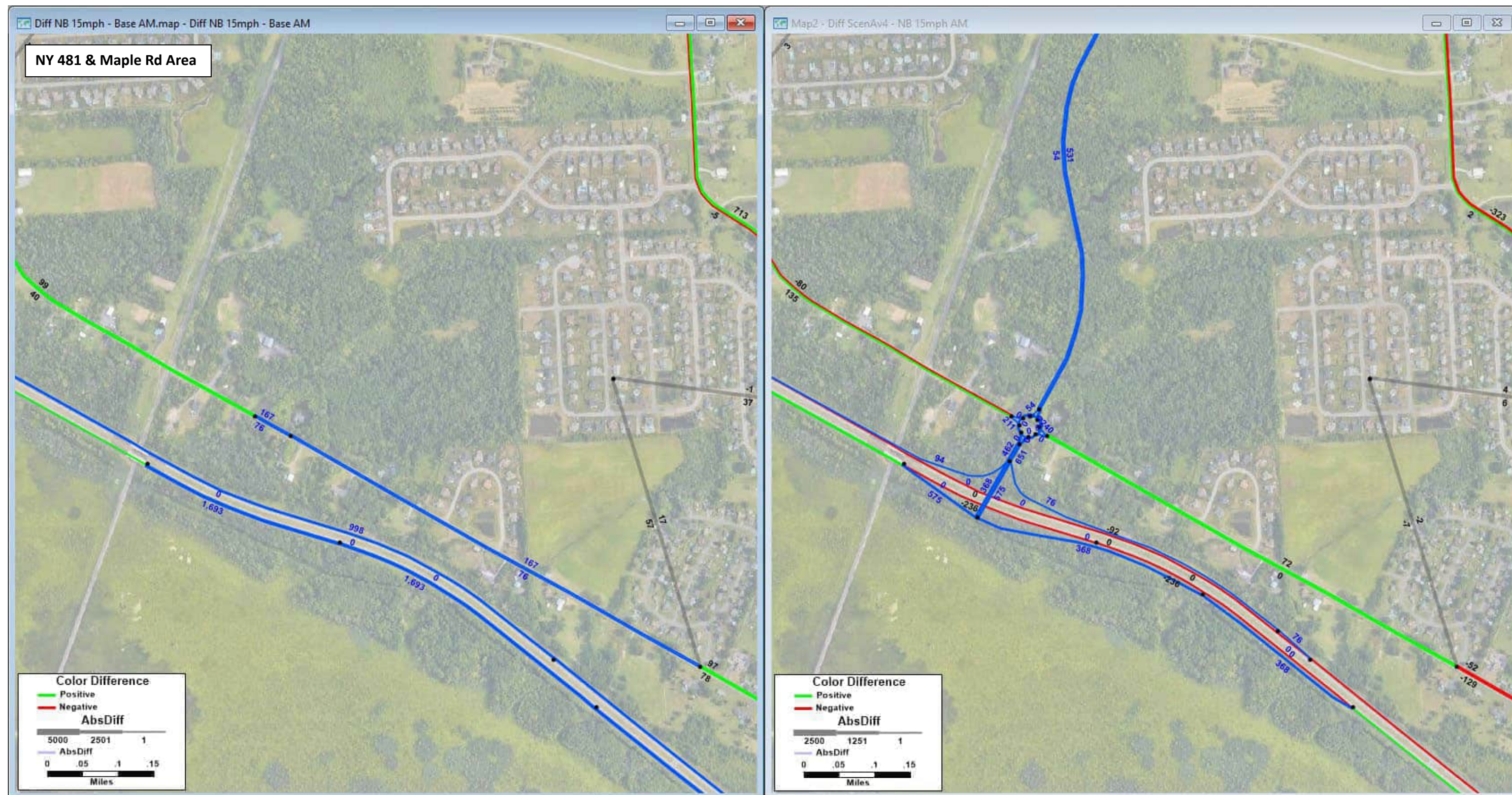
No Build: All future land use and anticipated transportation projects but no Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



**2040 Scenario A v4 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes**

Build: All future land use and anticipated transportation projects with Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

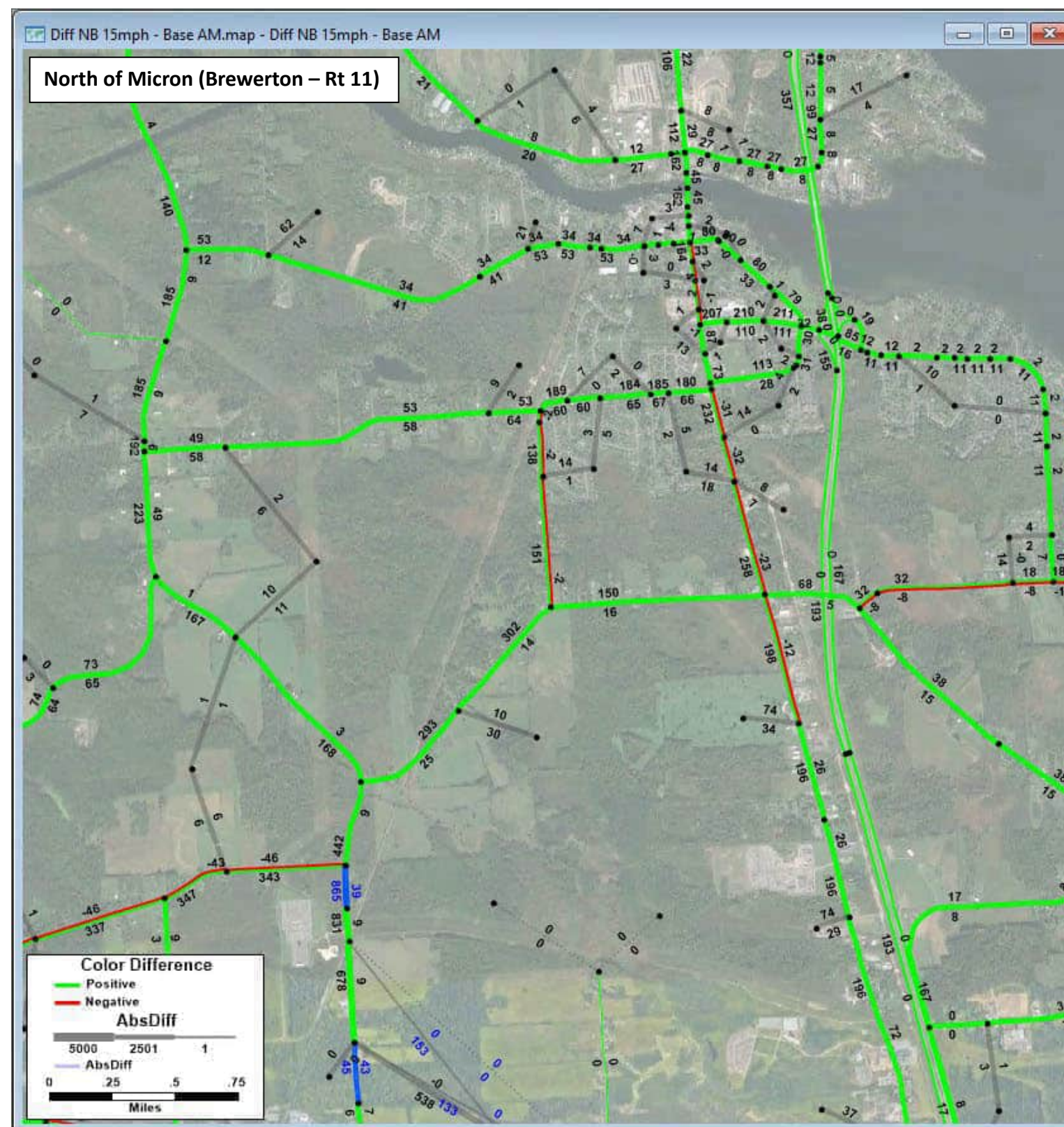




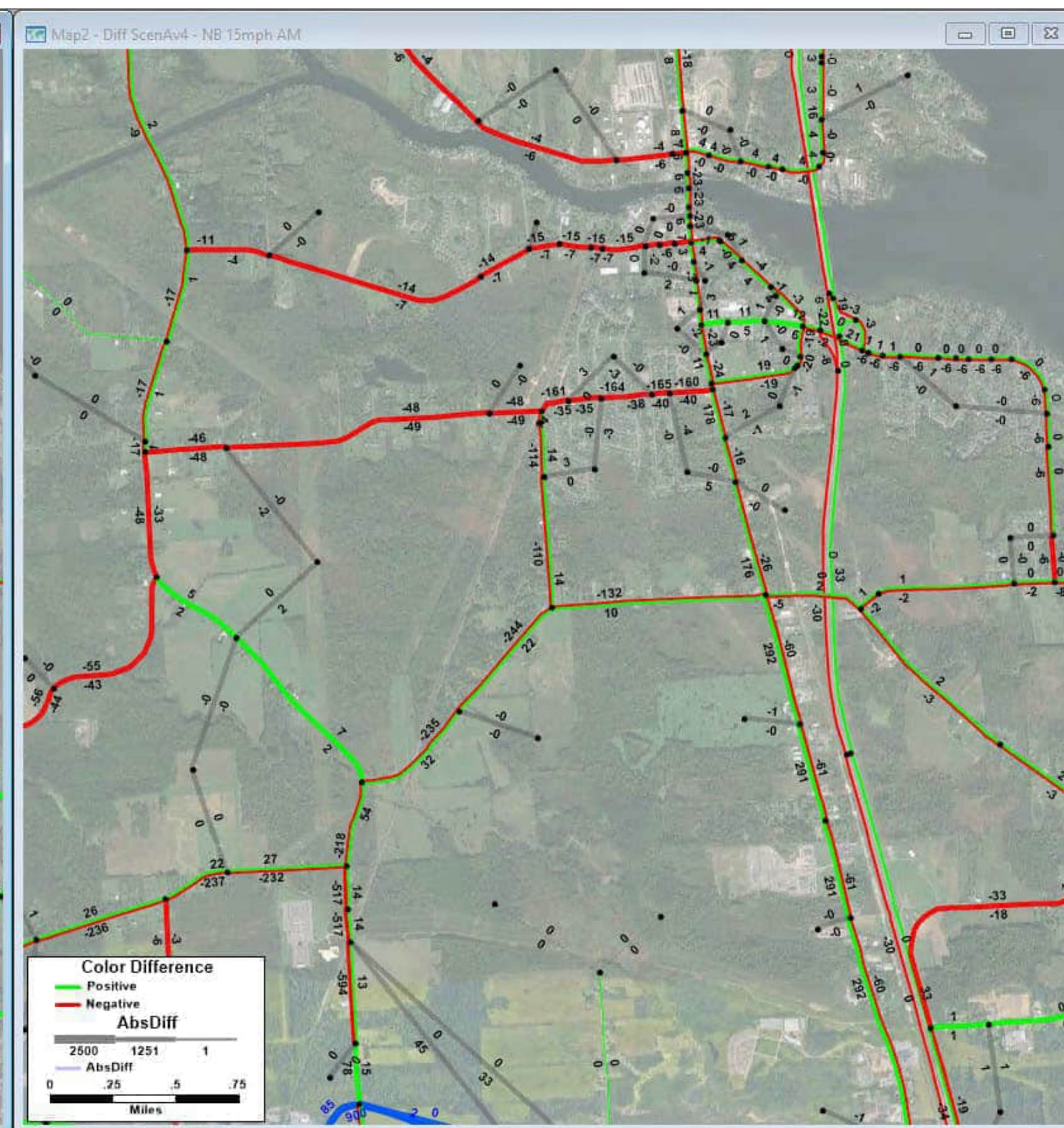
**2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes**  
No Build: All future land use and anticipated transportation projects but no Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

**2040 Scenario A v4 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes**  
Build: All future land use and anticipated transportation projects with Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



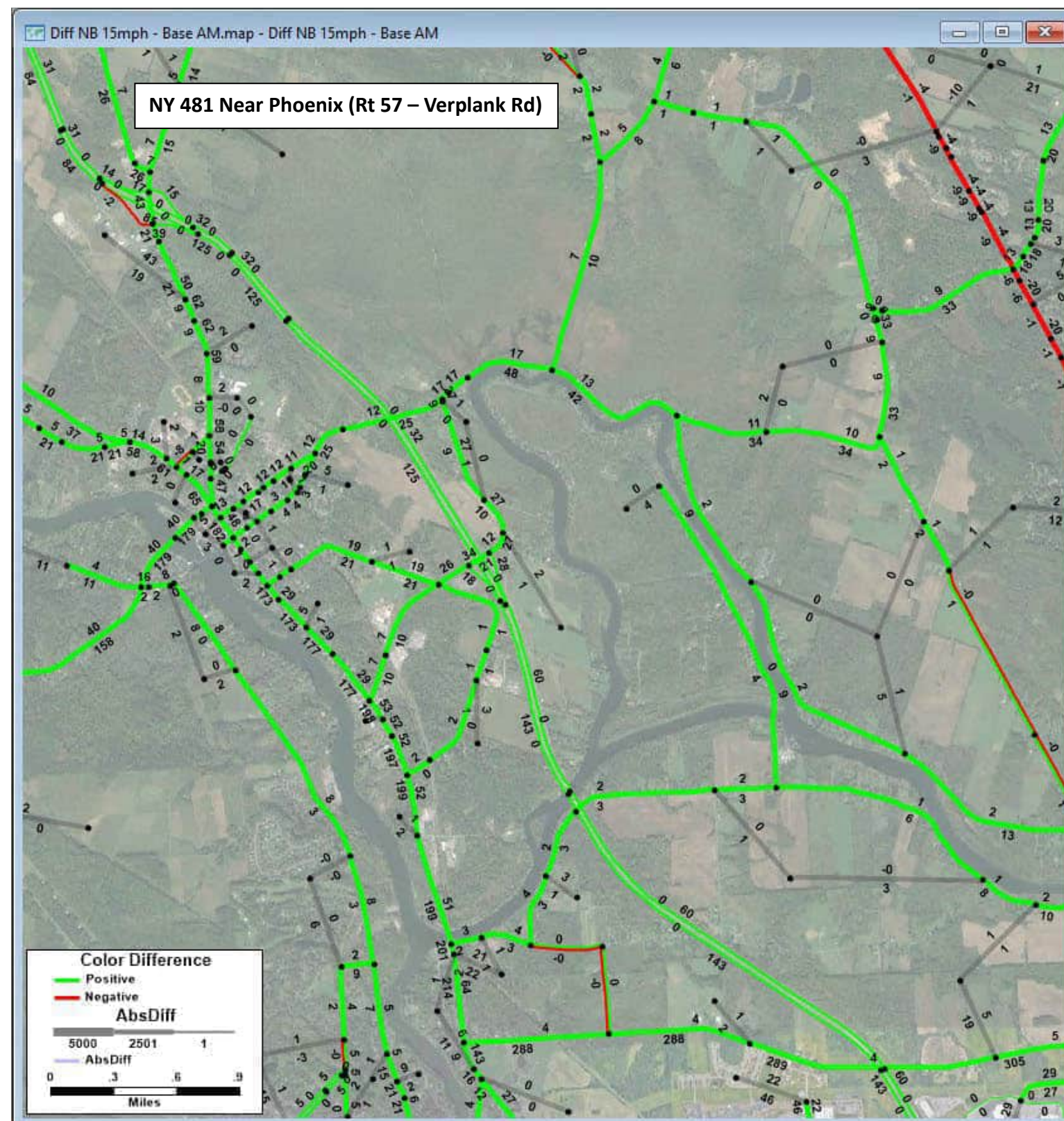


**2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes**  
No Build: All future land use and anticipated transportation projects but no Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

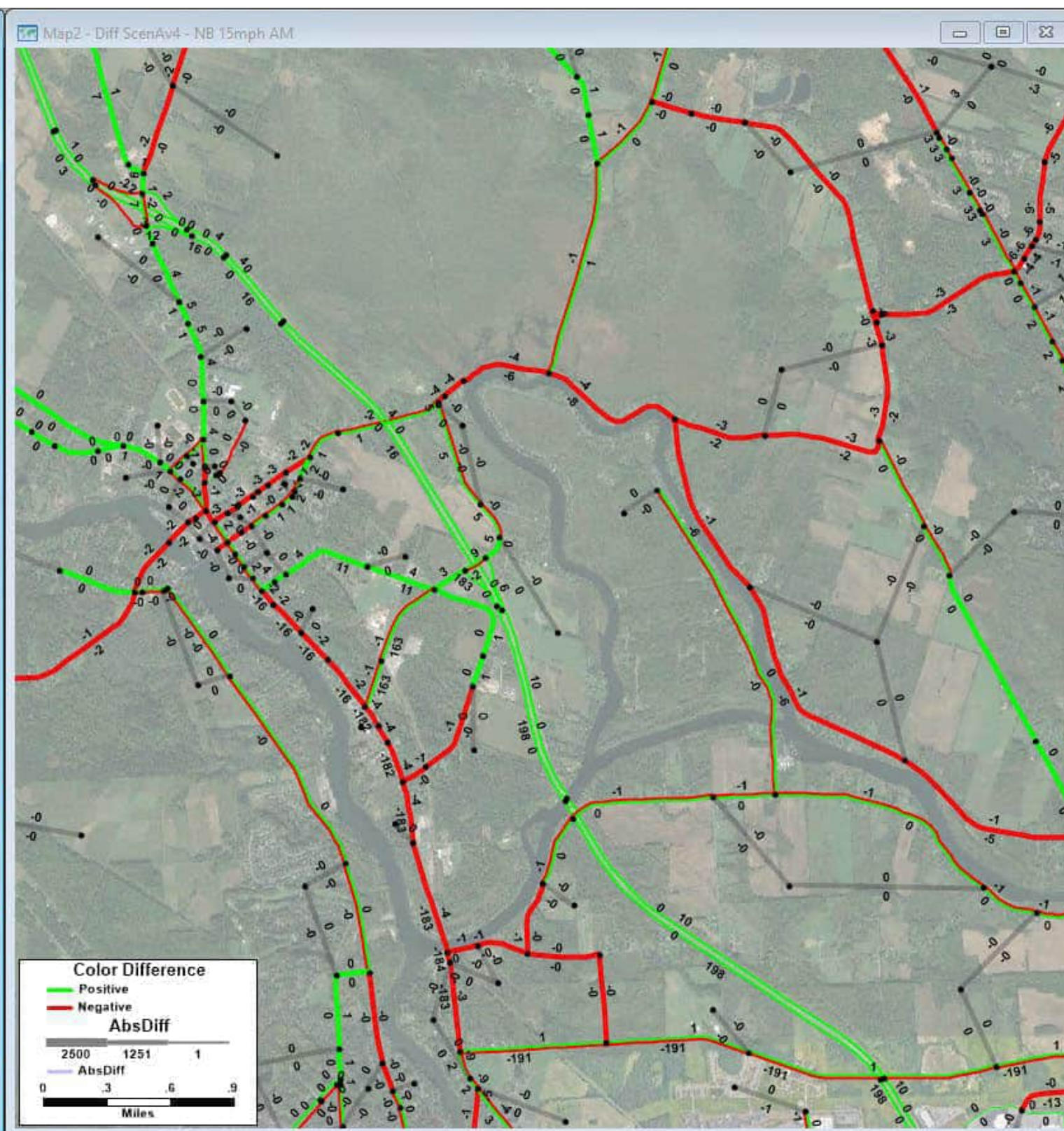


**2040 Scenario A v4 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes**  
Build: All future land use and anticipated transportation projects with Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



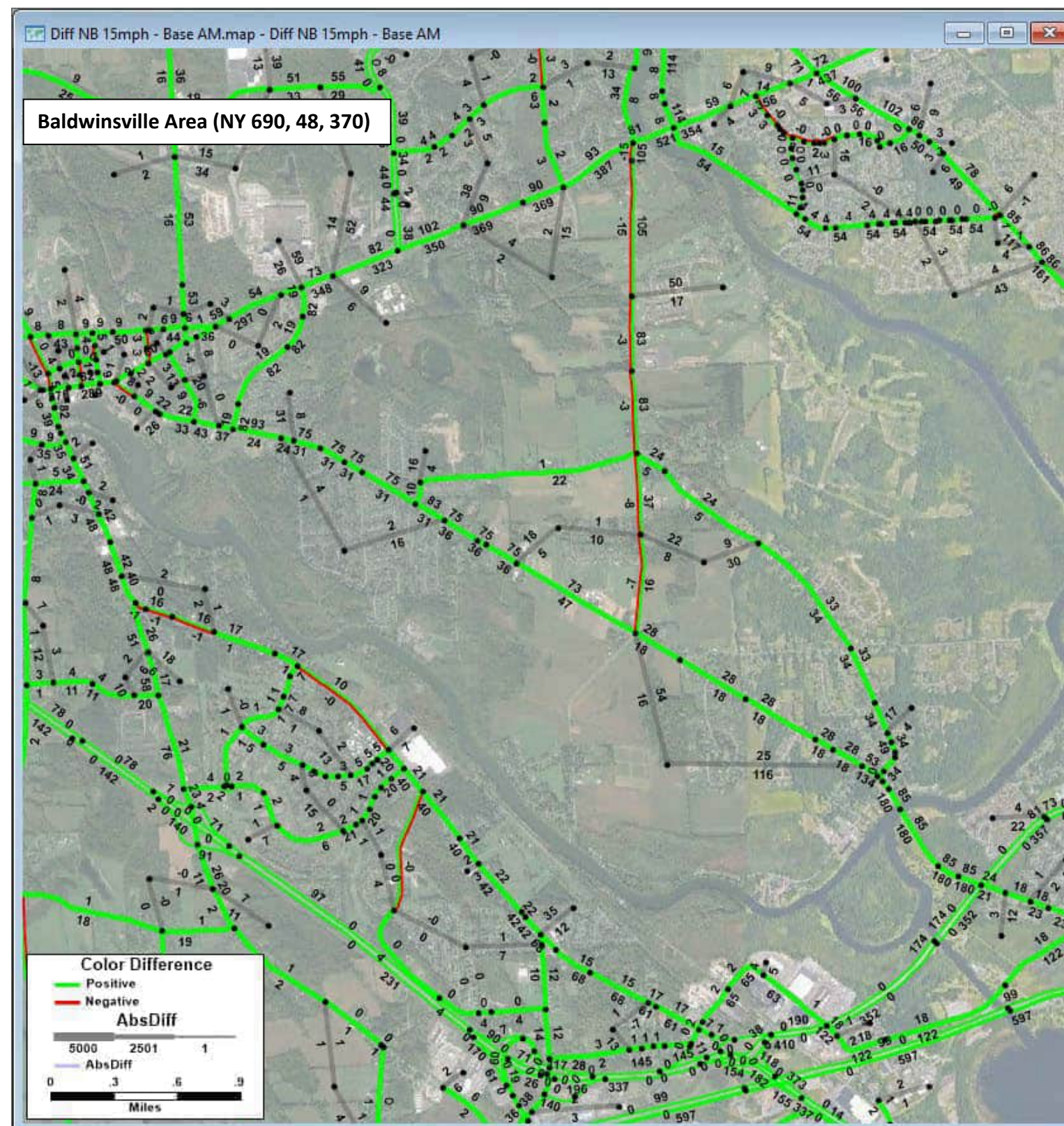


**2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes**  
No Build: All future land use and anticipated transportation projects but no Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

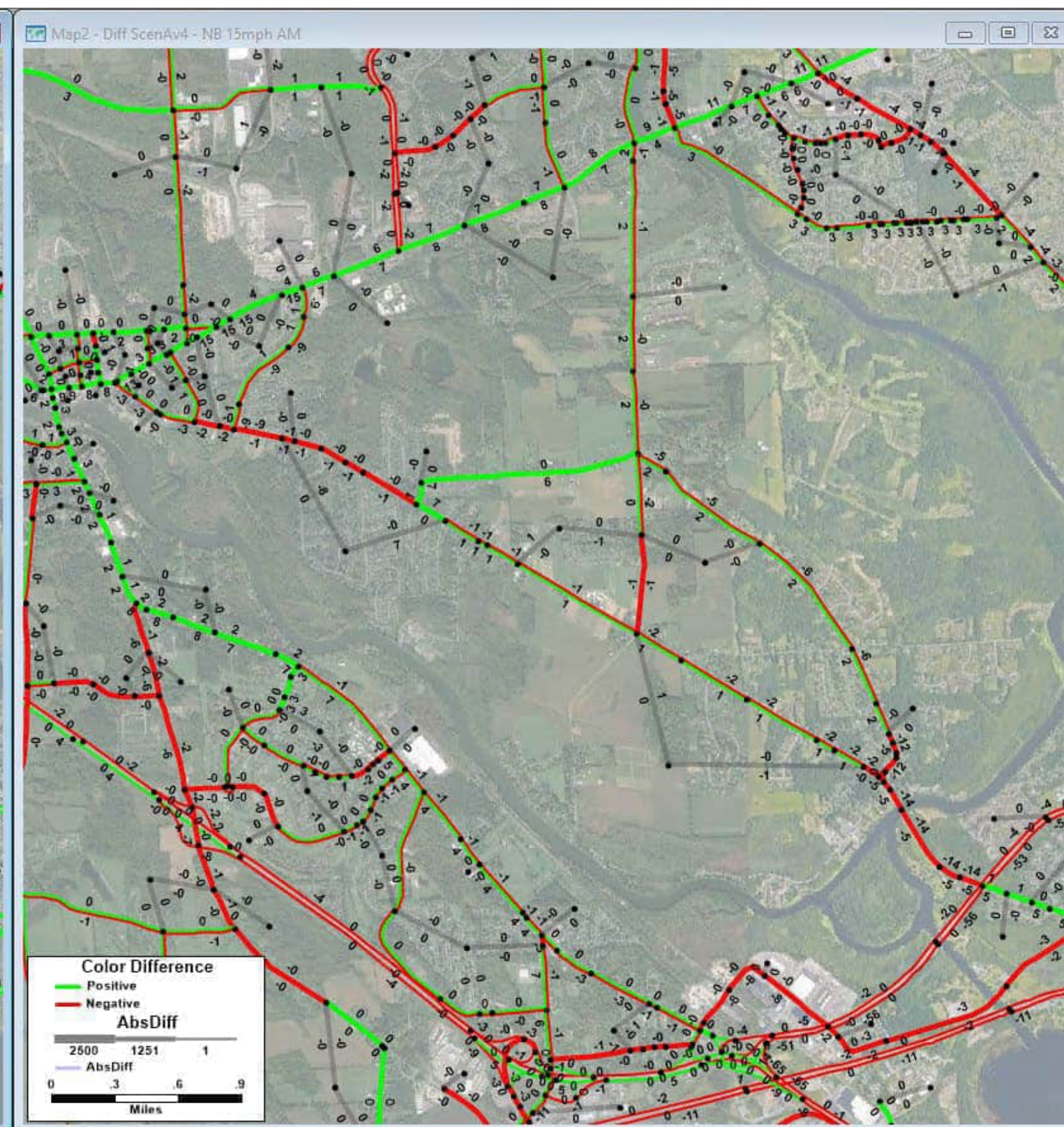


**2040 Scenario A v4 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes**  
Build: All future land use and anticipated transportation projects with Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



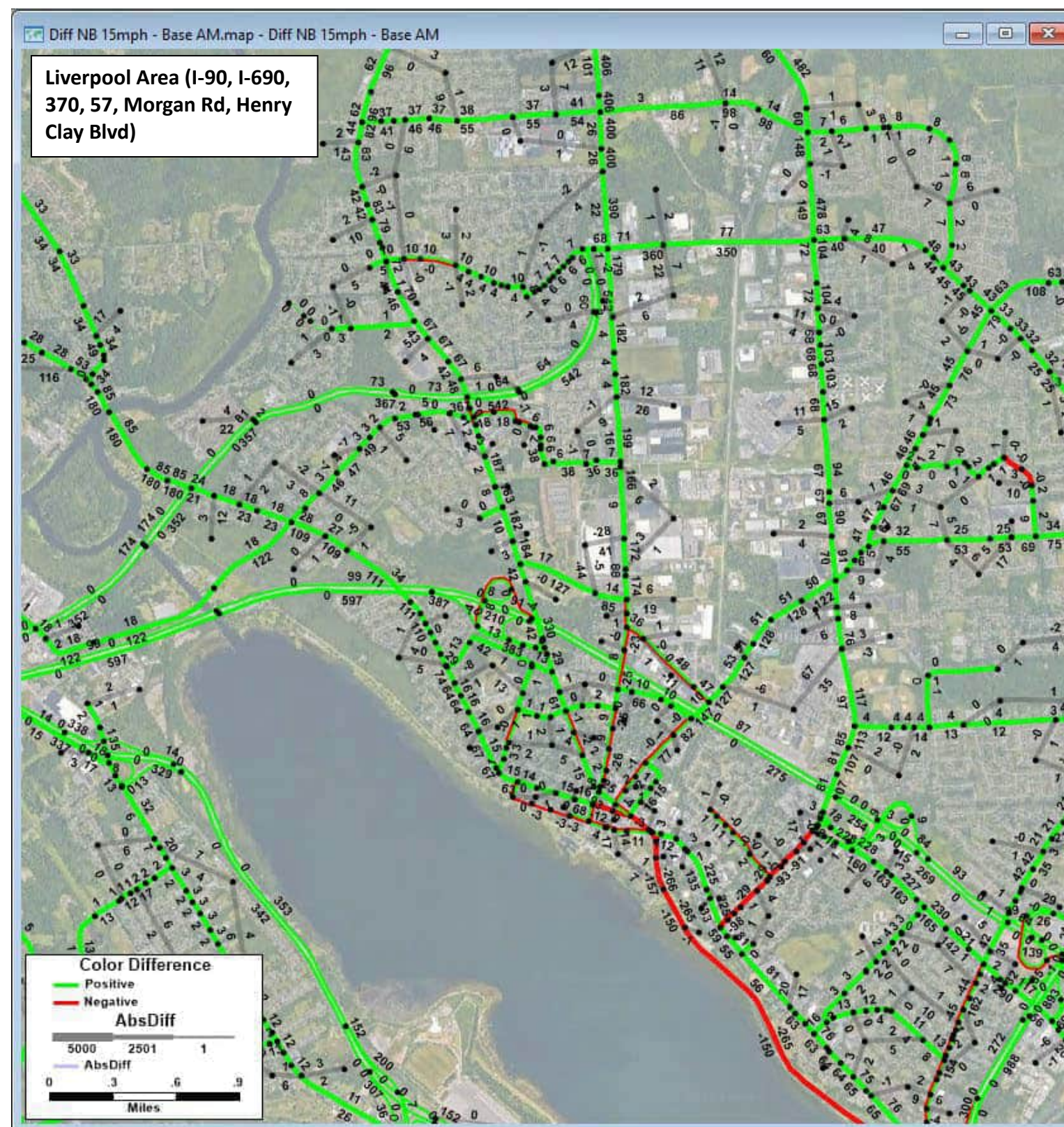


**2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes**  
No Build: All future land use and anticipated transportation projects but no Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

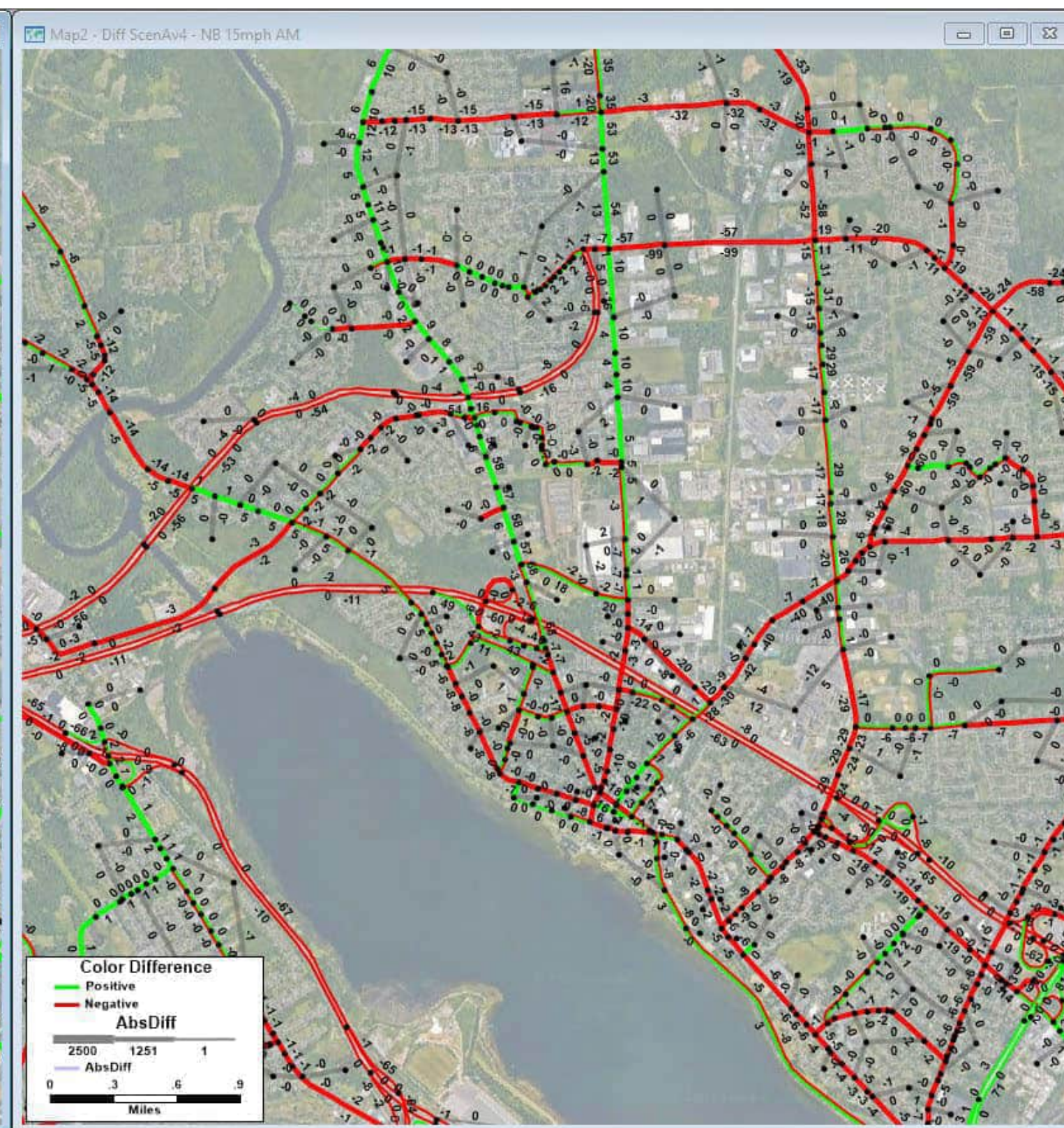


**2040 Scenario A v4 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes**  
Build: All future land use and anticipated transportation projects with Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



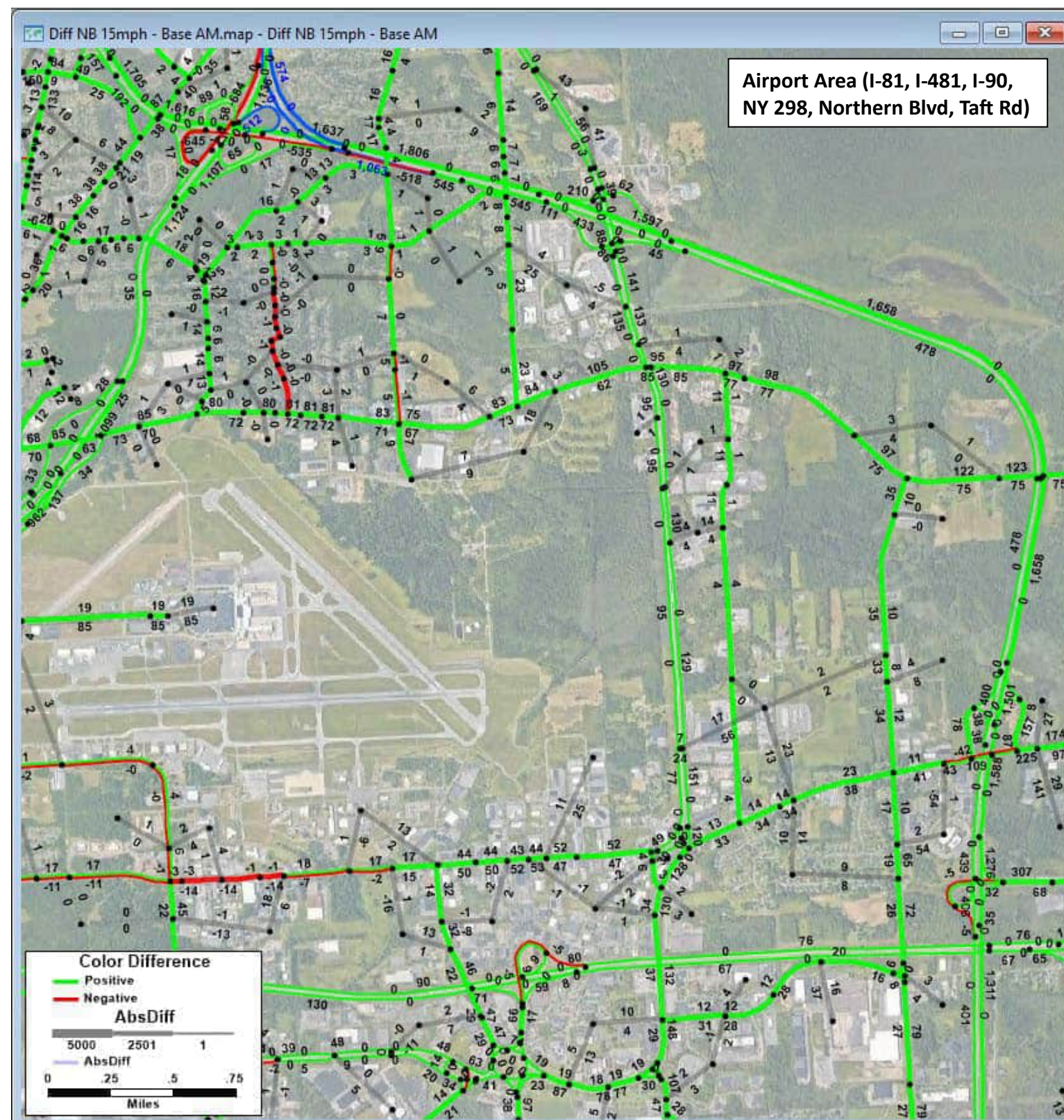


**2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes**  
No Build: All future land use and anticipated transportation projects but no Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



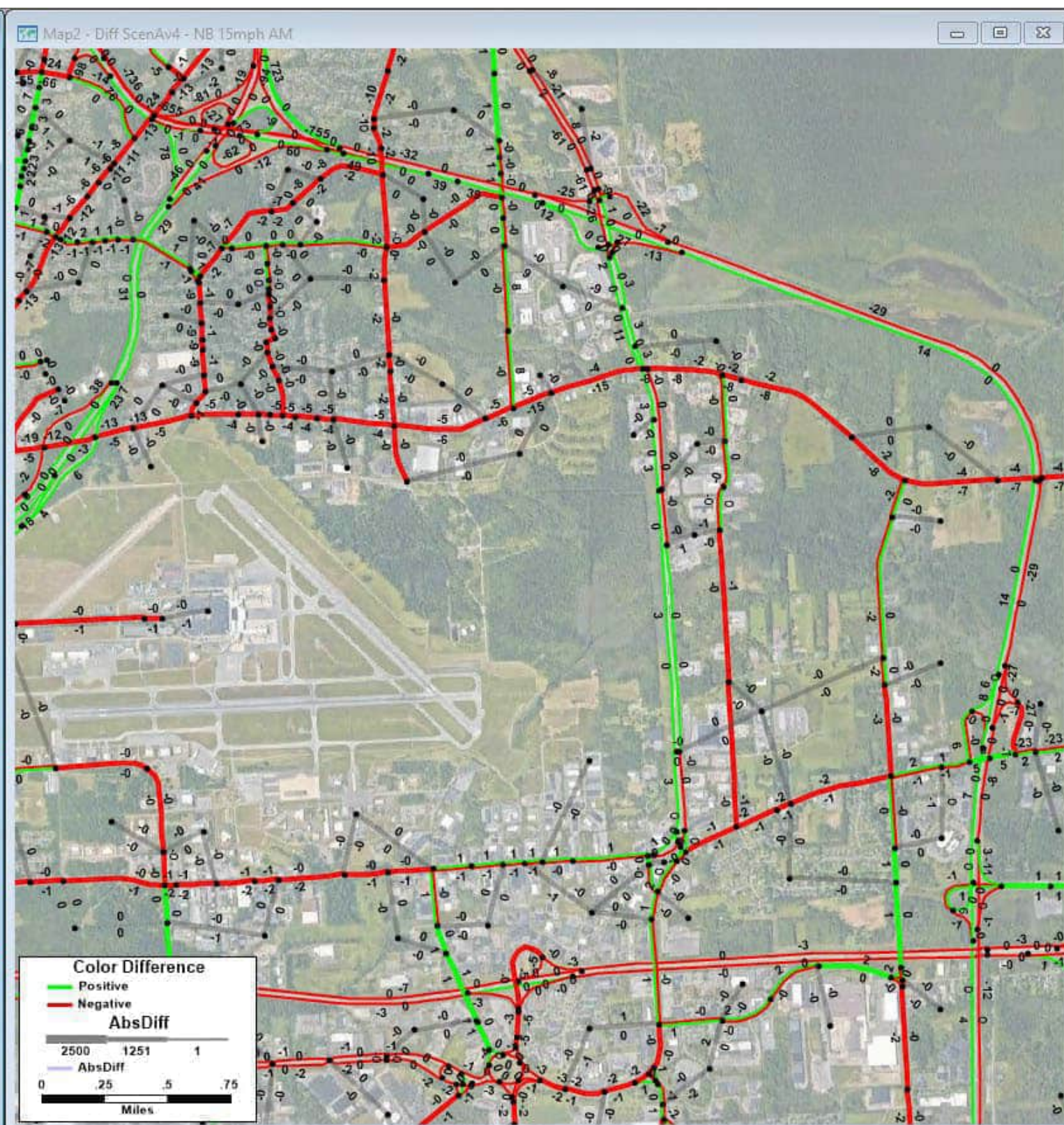
**2040 Scenario A v4 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes**  
Build: All future land use and anticipated transportation projects with Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)





2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes

No Build: All future land use and anticipated transportation projects but no Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



2040 Scenario A v4 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes

Build: All future land use and anticipated transportation projects with Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

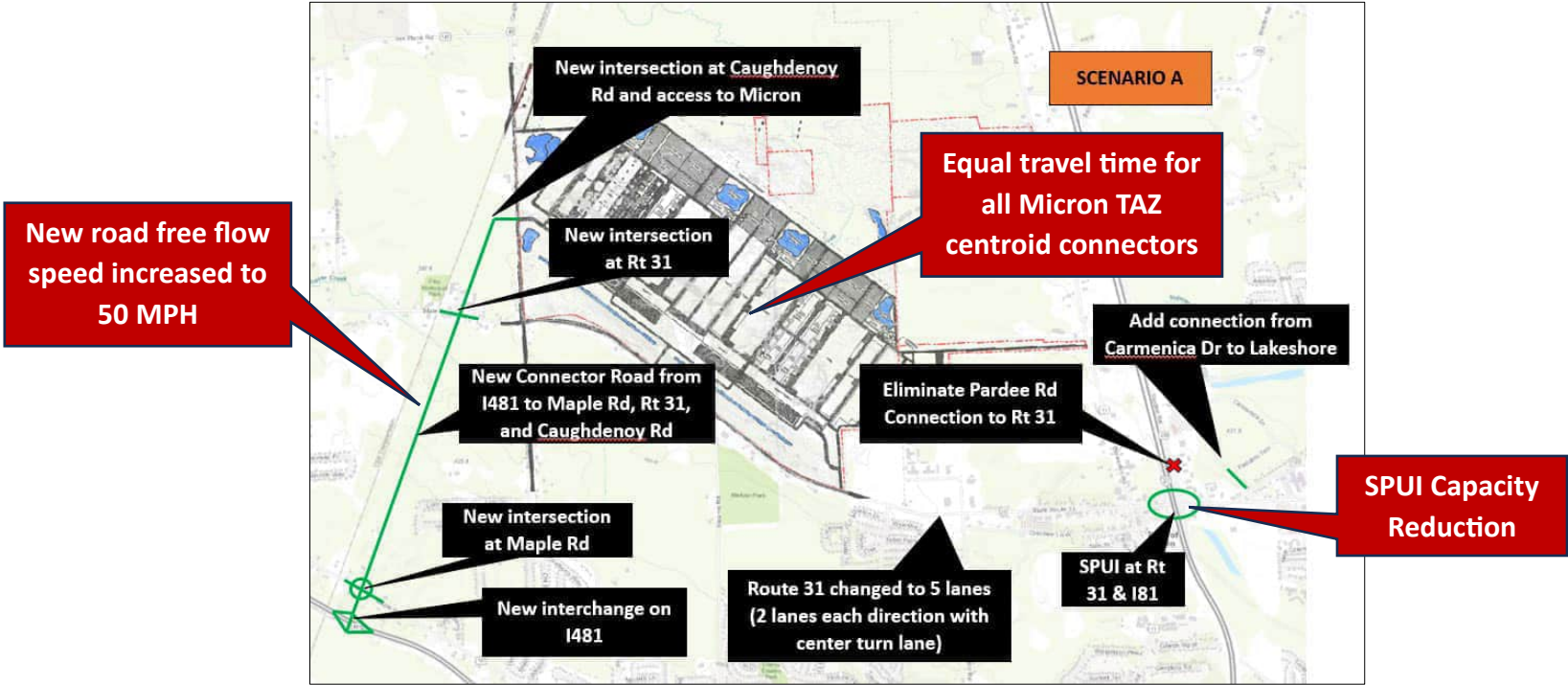


SMTC Travel Demand Model Results: **Scenario A v4** (Scenario A v3 and Rt31 SPUI Capacity Decrease) – **PM PEAK HOUR CHANGE IN VOLUMES**

The graphic to the right shows the general assumptions for **Scenario A v4** →

Notes:

- All 2040 scenarios include projected future land use growth (including Micron)
- No Build in this document refers to no Micron related road network changes
- **RED** callouts note the revisions made to Scenario A



The graphic to the right is an example of what is included in this document →

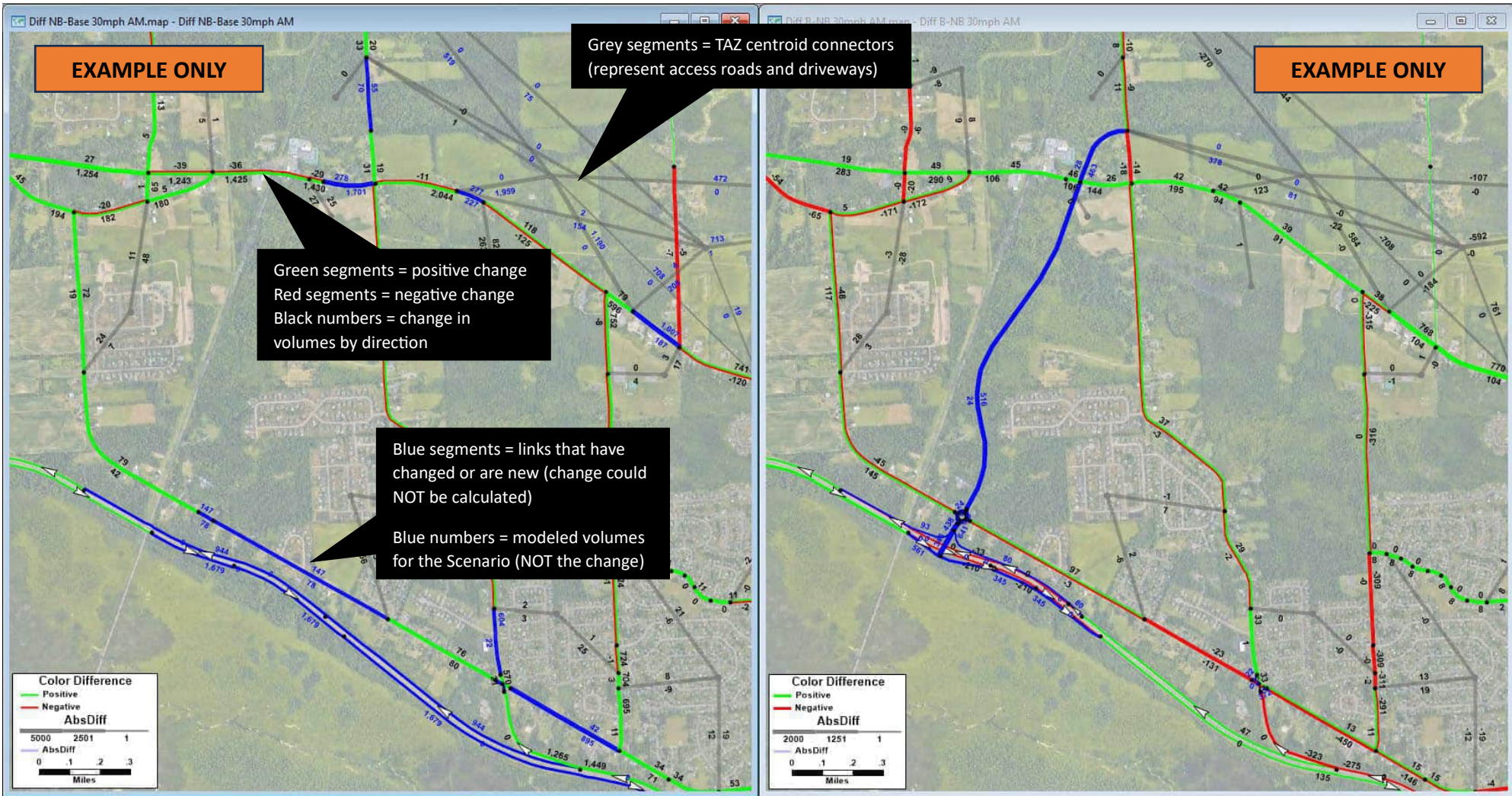
The map on the left displays the change in **PM** volumes between the 2020 existing conditions base model to the 2040 No Build (**2040 NB PM Volumes less 2020 PM volumes**). No Build in this case refers to no network improvements, the build future land use conditions are included (including Micron).

The map on the right displays the change in **PM** volumes between the 2040 No Build to the 2040 Scenario "X" Build (**2040 Scenario "X" Build PM Volumes less 2040 NB PM volumes**).

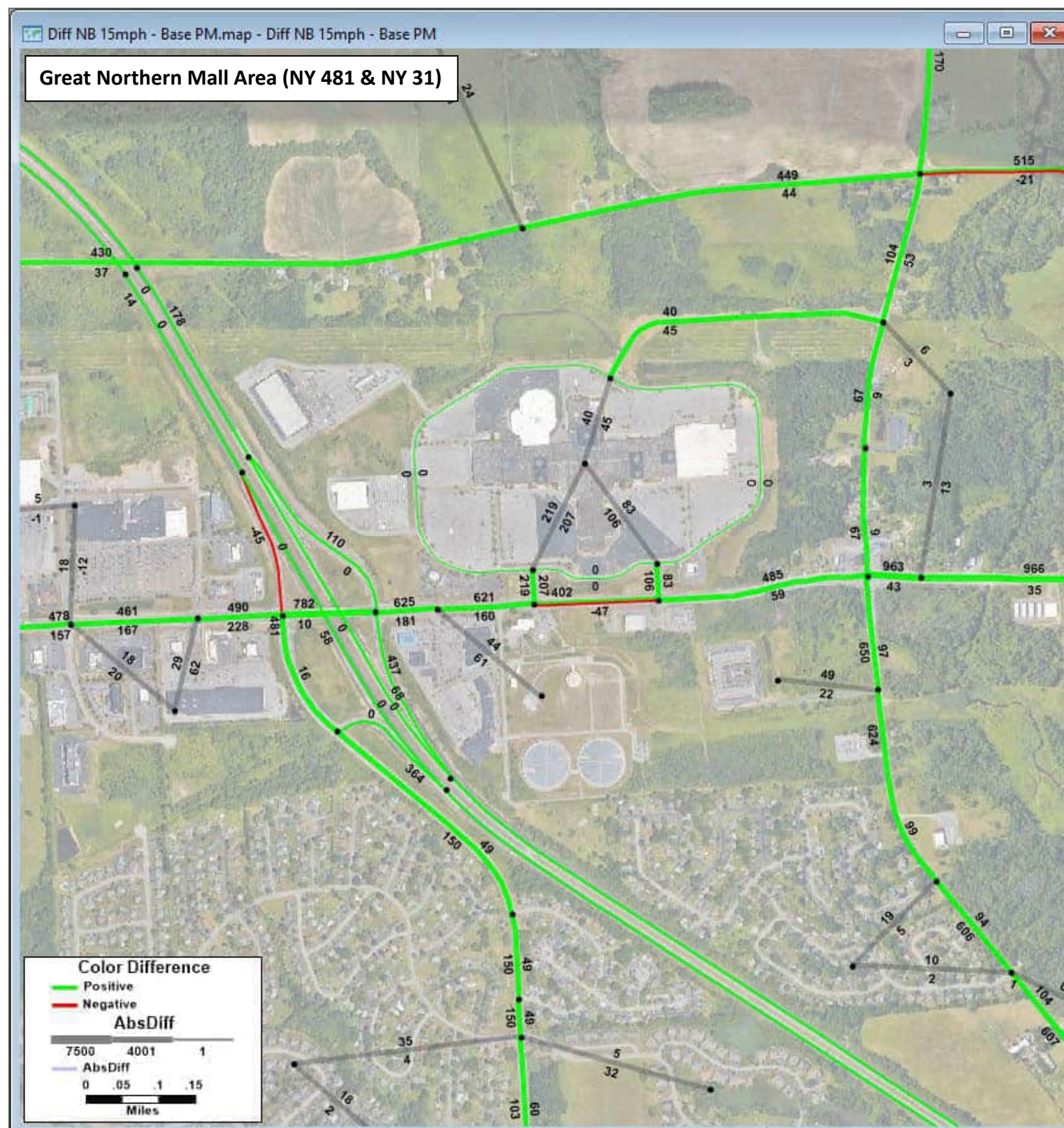
MAP NOTES:

- **Green** segments = positive change between identified scenarios
- **Red** segments = negative change between identified scenarios
- **Black numbers** = change in volumes by direction
- **Blue** segments = links that have changed or are new for that scenario therefore a change can **NOT** be calculated
- **Blue numbers** = modeled volume by direction on that segment for that scenario (change could NOT be calculated for that link)
- **Gray** segments = TAZ centroid connectors (general representation of access roads and driveways)

To get total future volume on a segment add up the numbers from both maps and then add that to existing traffic counts.



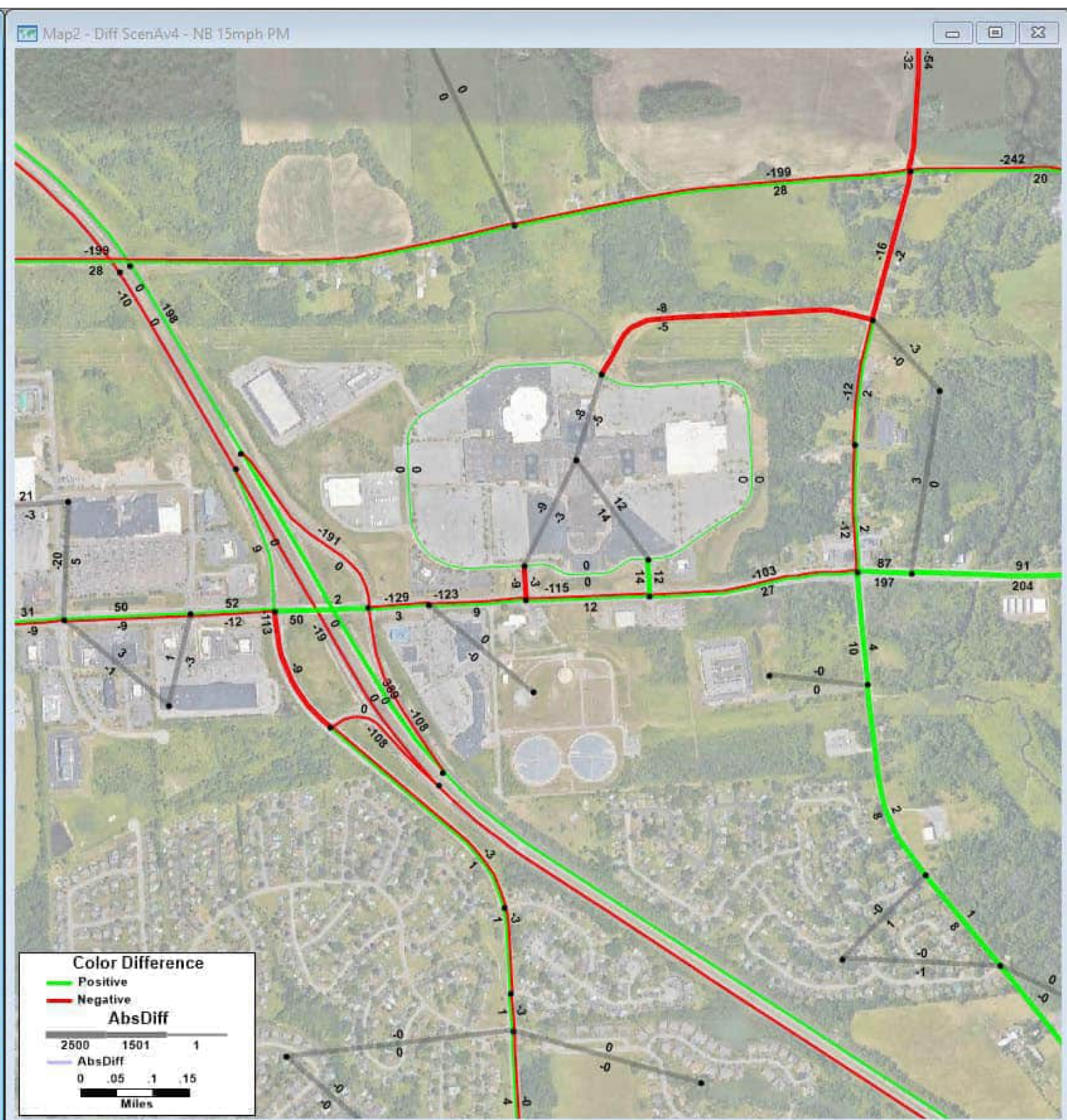




2040 No Build PM Volumes - 2020 Existing Conditions PM Volumes = Change in PM Volumes

No Build: All future land use and anticipated transportation projects but no Scenario A network changes

Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

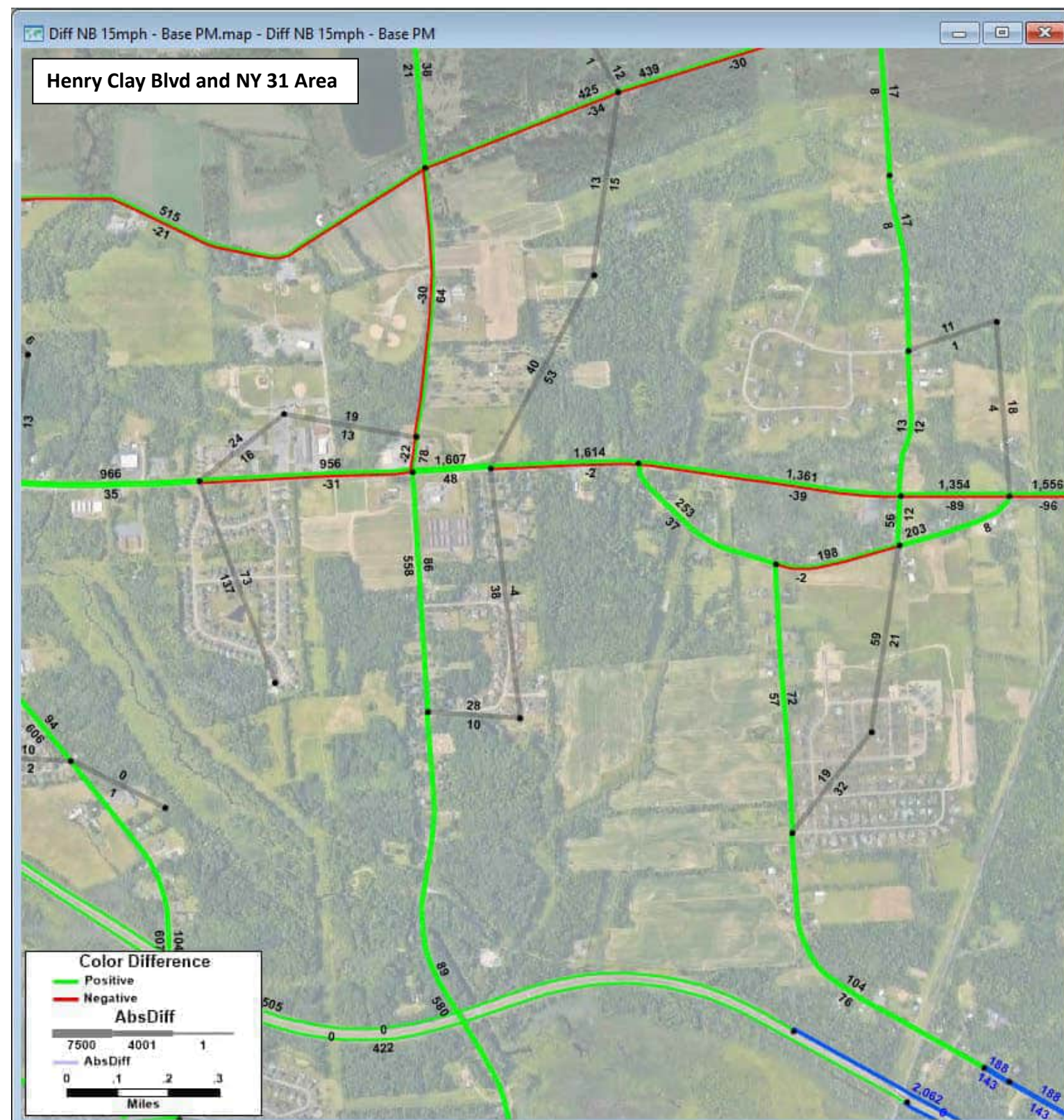


2040 Scenario A v4 PM Volumes - 2040 No Build PM Volumes = Change in PM Volumes

Build: All future land use and anticipated transportation projects with Scenario A network changes

Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

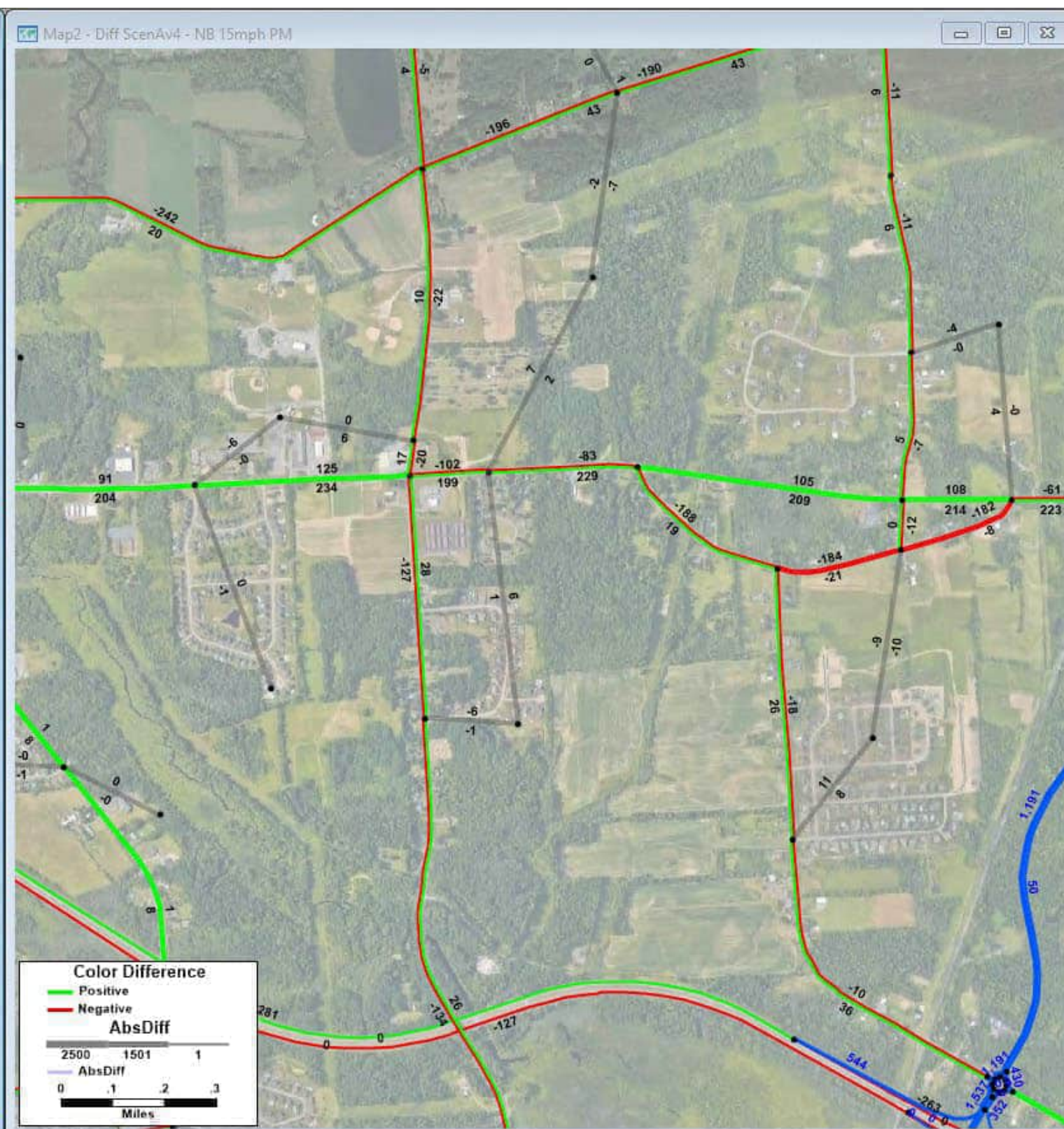




**2040 No Build PM Volumes - 2020 Existing Conditions PM Volumes = Change in PM Volumes**

No Build: All future land use and anticipated transportation projects but no Scenario A network changes

Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

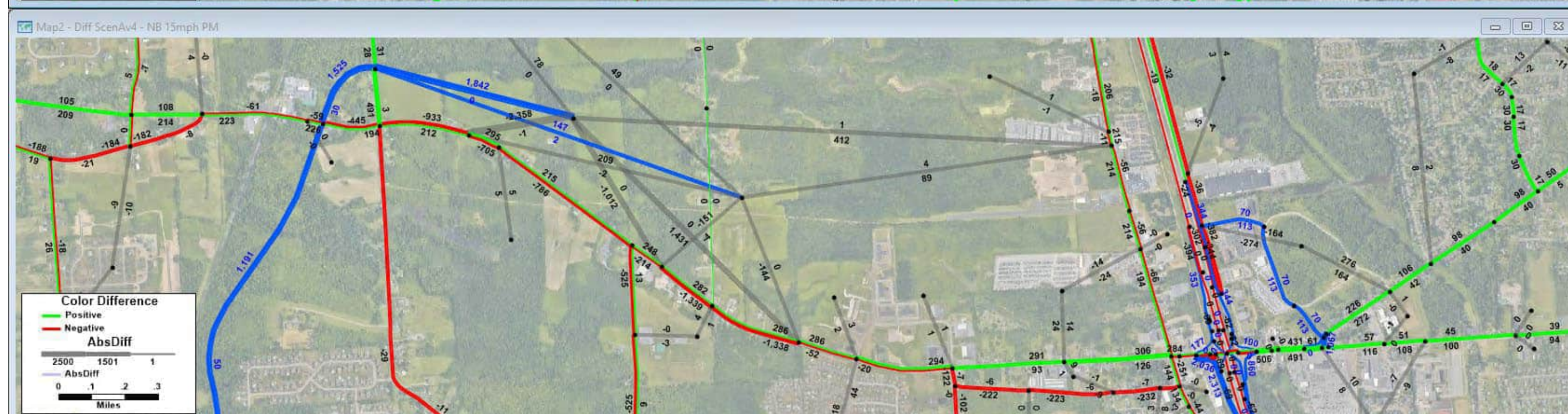
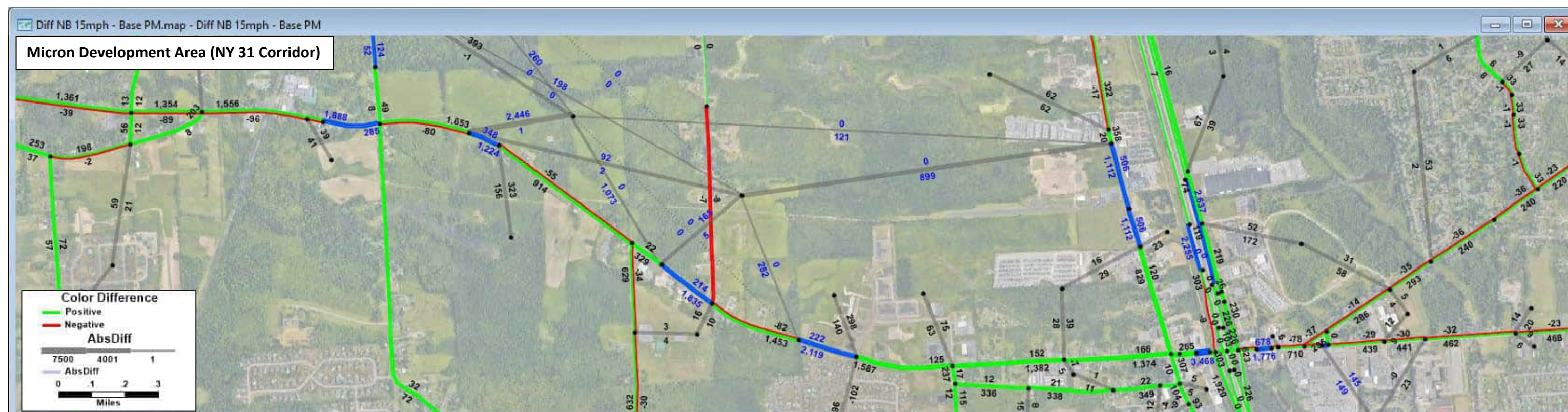


**2040 Scenario A v4 PM Volumes - 2040 No Build PM Volumes = Change in PM Volumes**

Build: All future land use and anticipated transportation projects with Scenario A network changes

Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

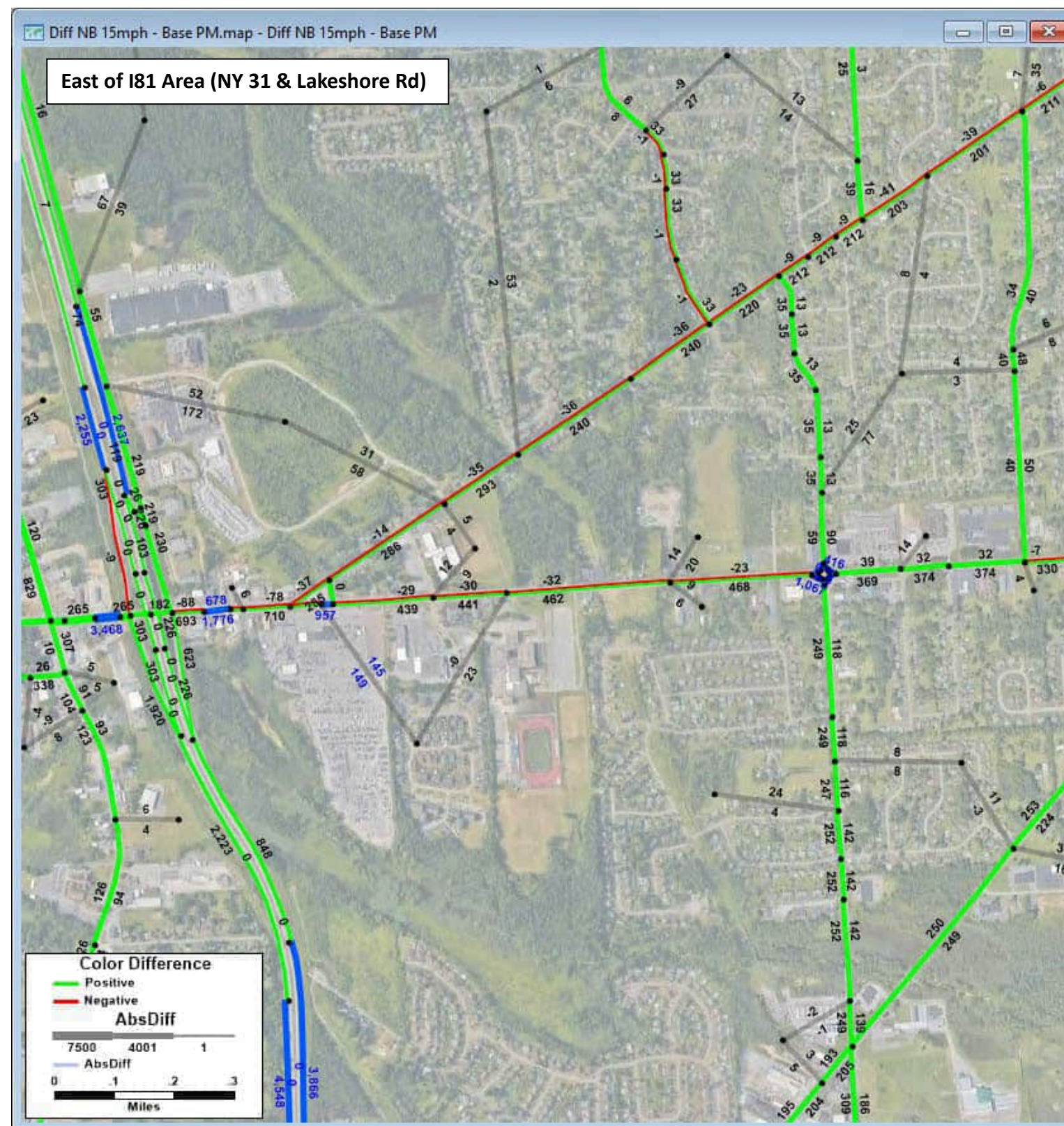




**(TOP MAP) 2040 No Build PM Volumes - 2020 Existing Conditions PM Volumes = Change in PM Volumes**  
No Build: All future land use and anticipated transportation projects but no Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

**(Bottom MAP) 2040 Scenario A v4 PM Volumes - 2040 No Build PM Volumes = Change in PM Volumes**  
Build: All future land use and anticipated transportation projects with Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

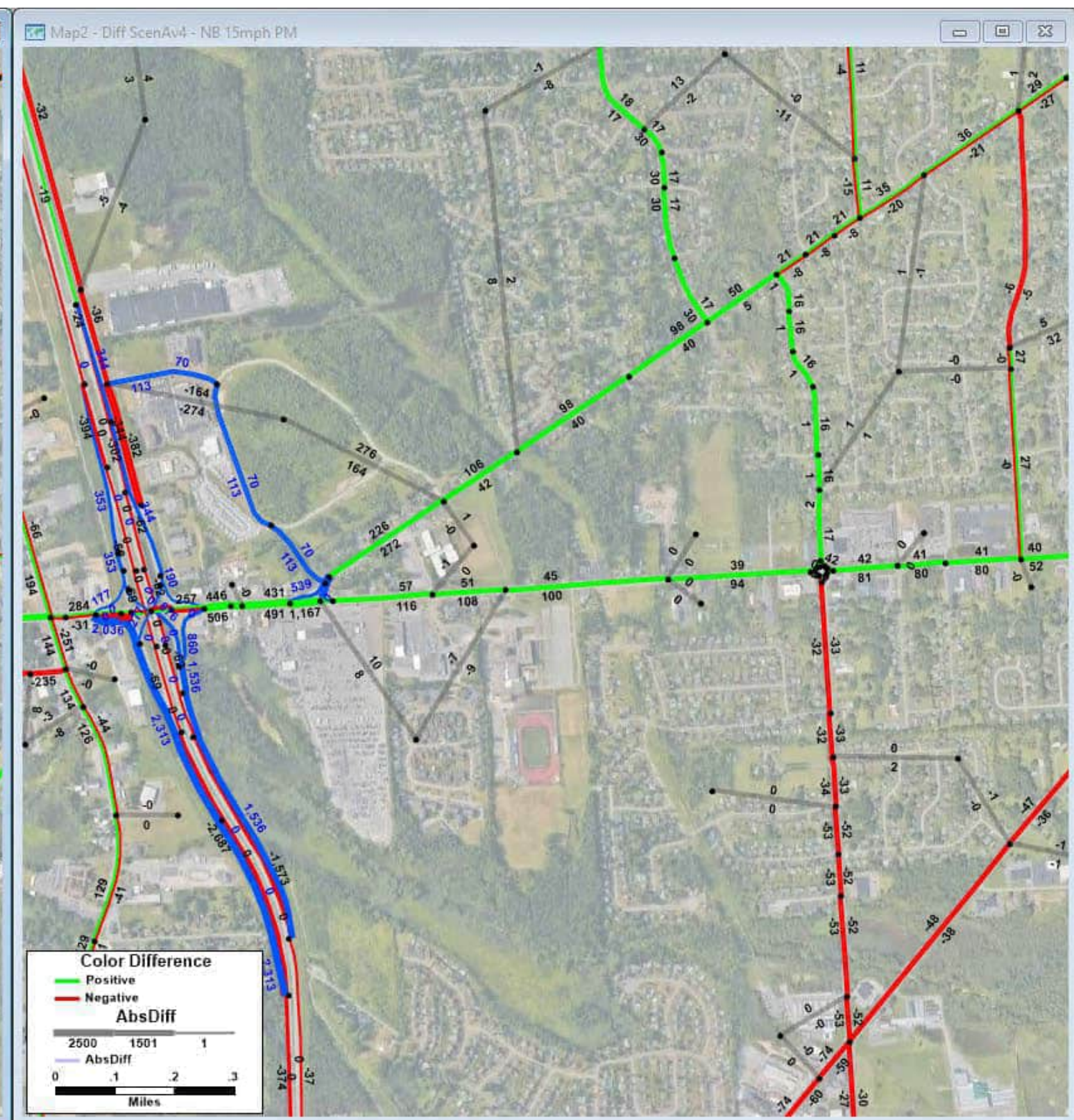




**2040 No Build PM Volumes - 2020 Existing Conditions PM Volumes = Change in PM Volumes**

No Build: All future land use and anticipated transportation projects but no Scenario A network changes

Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

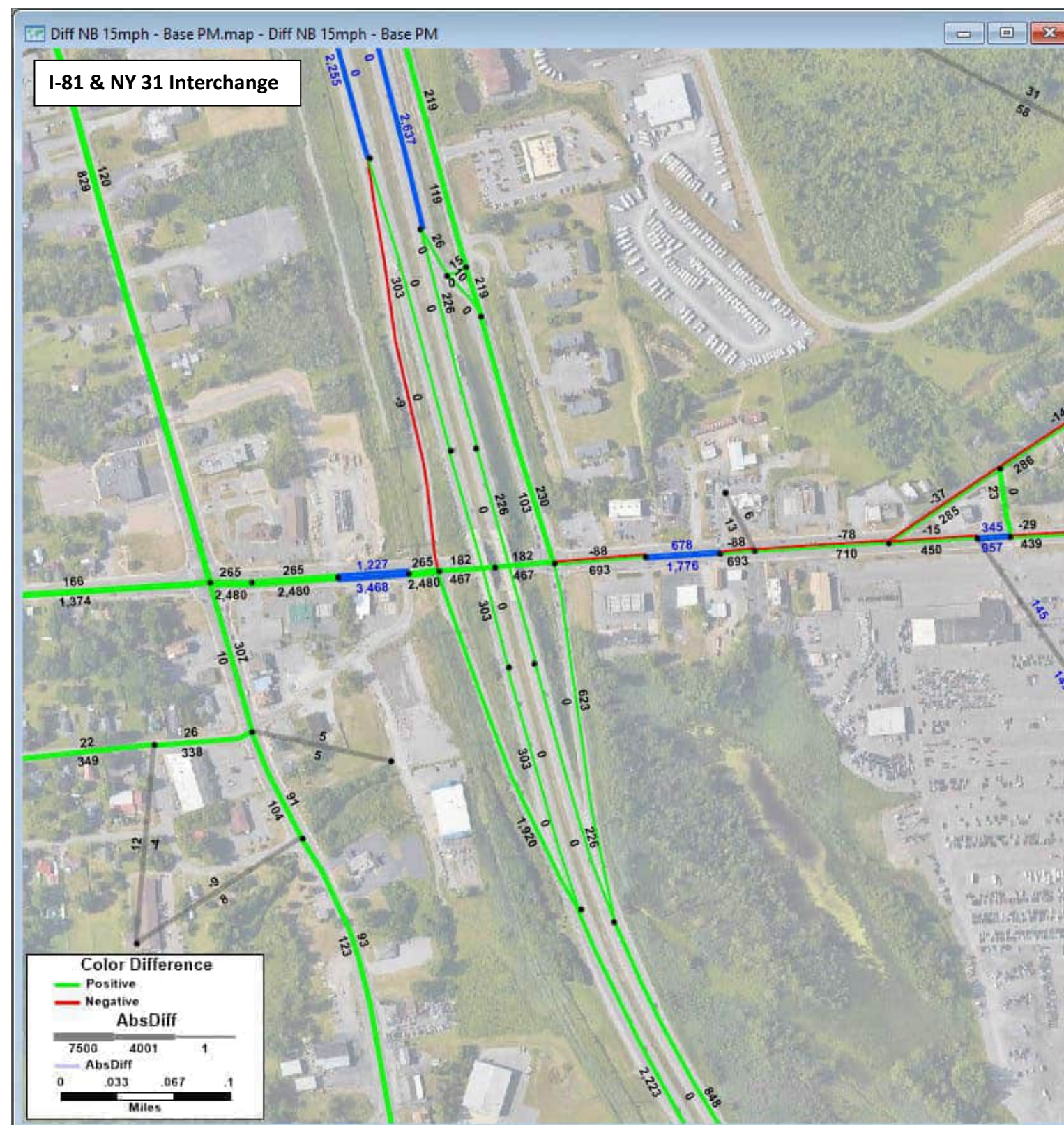


**2040 Scenario A v4 PM Volumes - 2040 No Build PM Volumes = Change in PM Volumes**

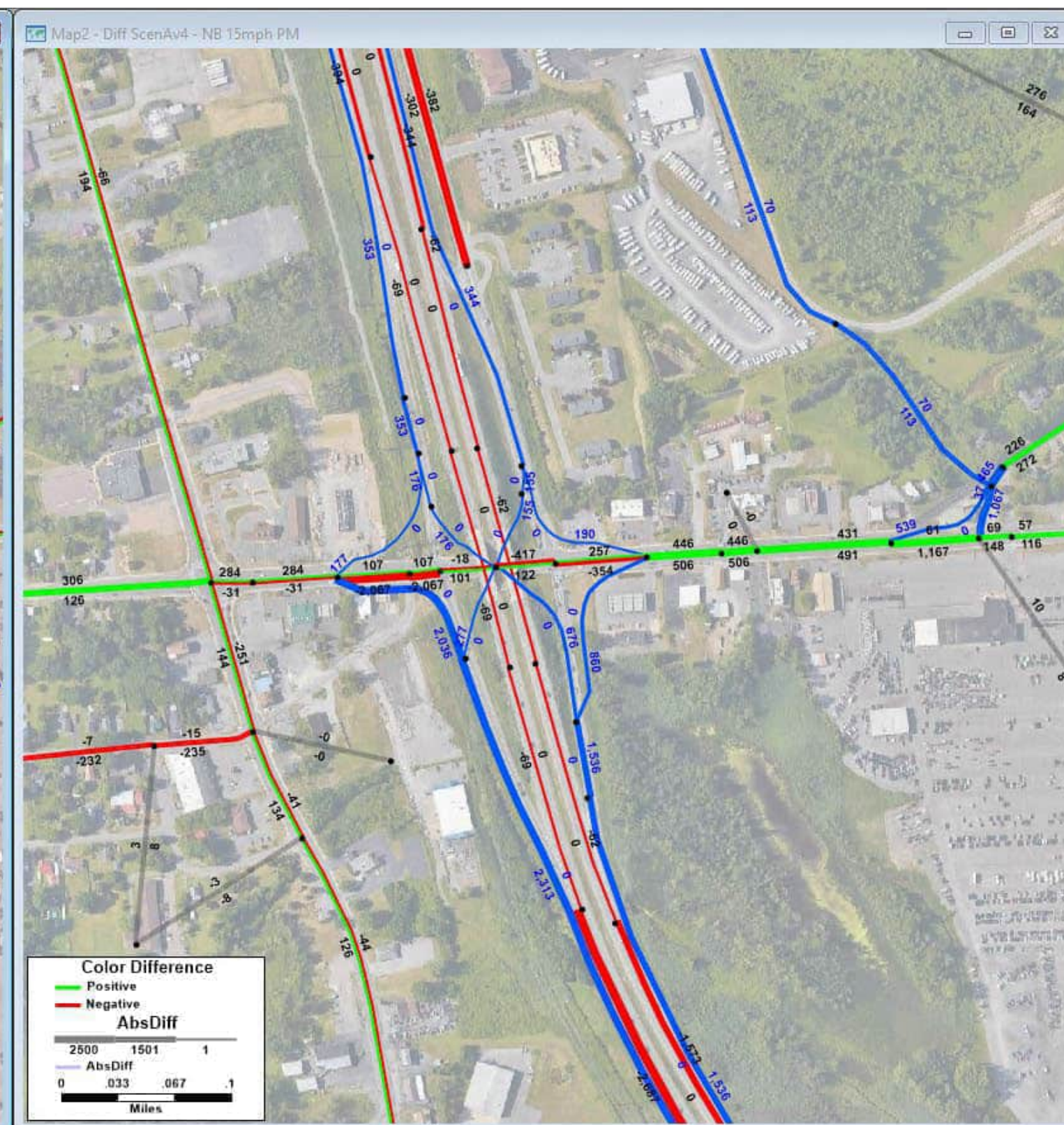
Build: All future land use and anticipated transportation projects with Scenario A network changes

Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



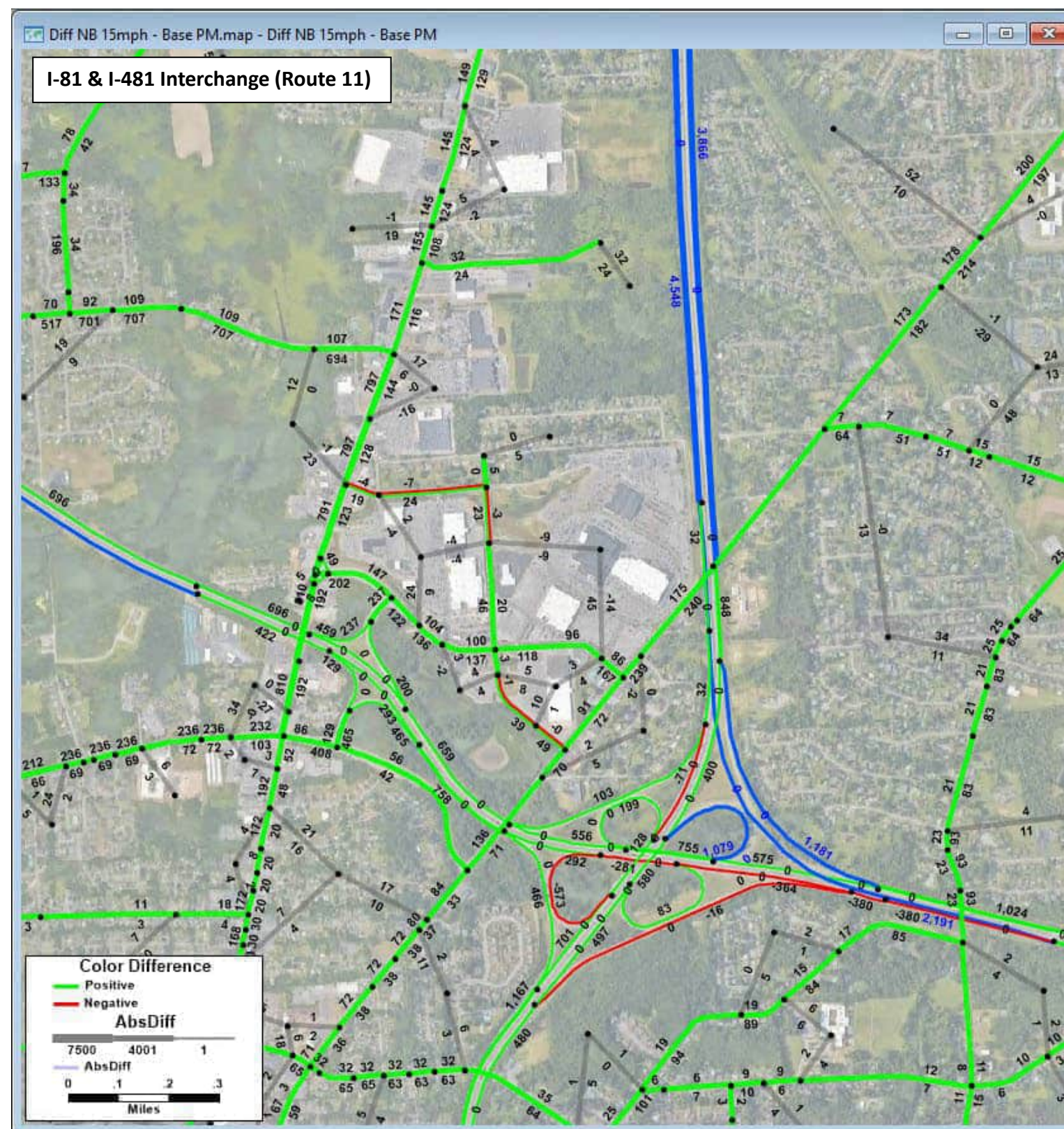


**2040 No Build PM Volumes - 2020 Existing Conditions PM Volumes = Change in PM Volumes**  
No Build: All future land use and anticipated transportation projects but no Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



**2040 Scenario A v4 PM Volumes - 2040 No Build PM Volumes = Change in PM Volumes**  
Build: All future land use and anticipated transportation projects with Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

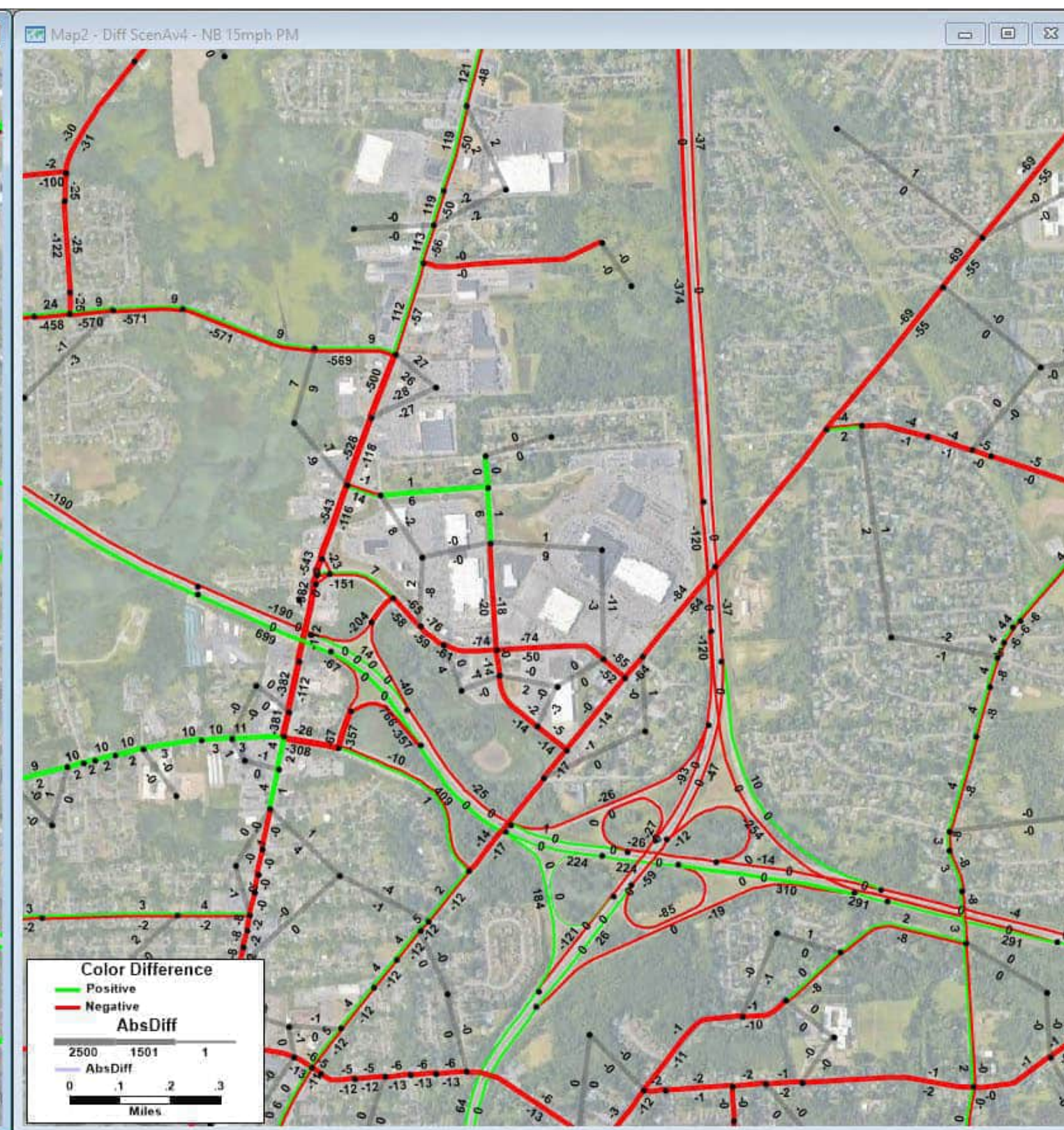




**2040 No Build PM Volumes - 2020 Existing Conditions PM Volumes = Change in PM Volumes**

No Build: All future land use and anticipated transportation projects but no Scenario A network changes

Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

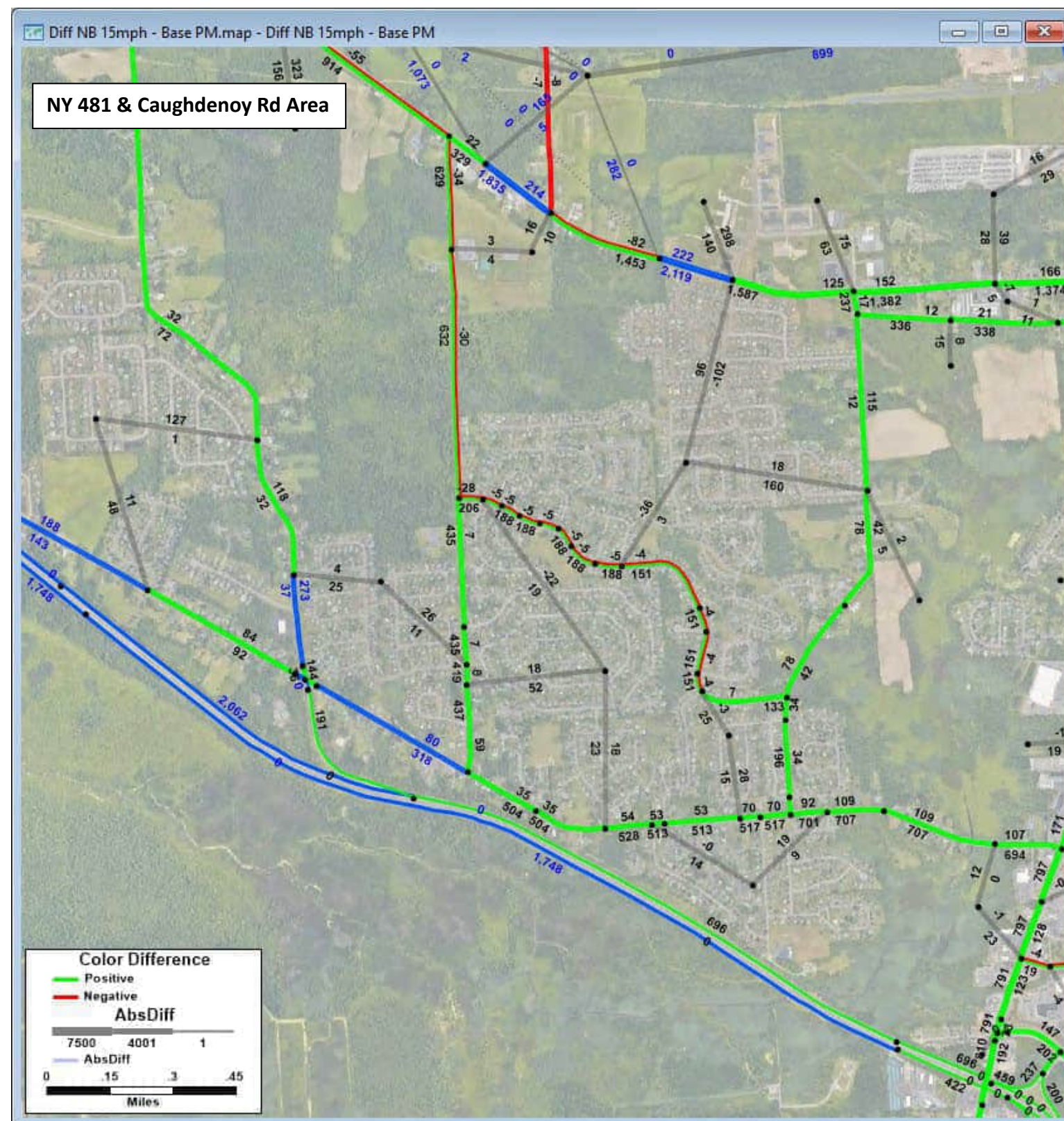


**2040 Scenario A v4 PM Volumes - 2040 No Build PM Volumes = Change in PM Volumes**

Build: All future land use and anticipated transportation projects with Scenario A network changes

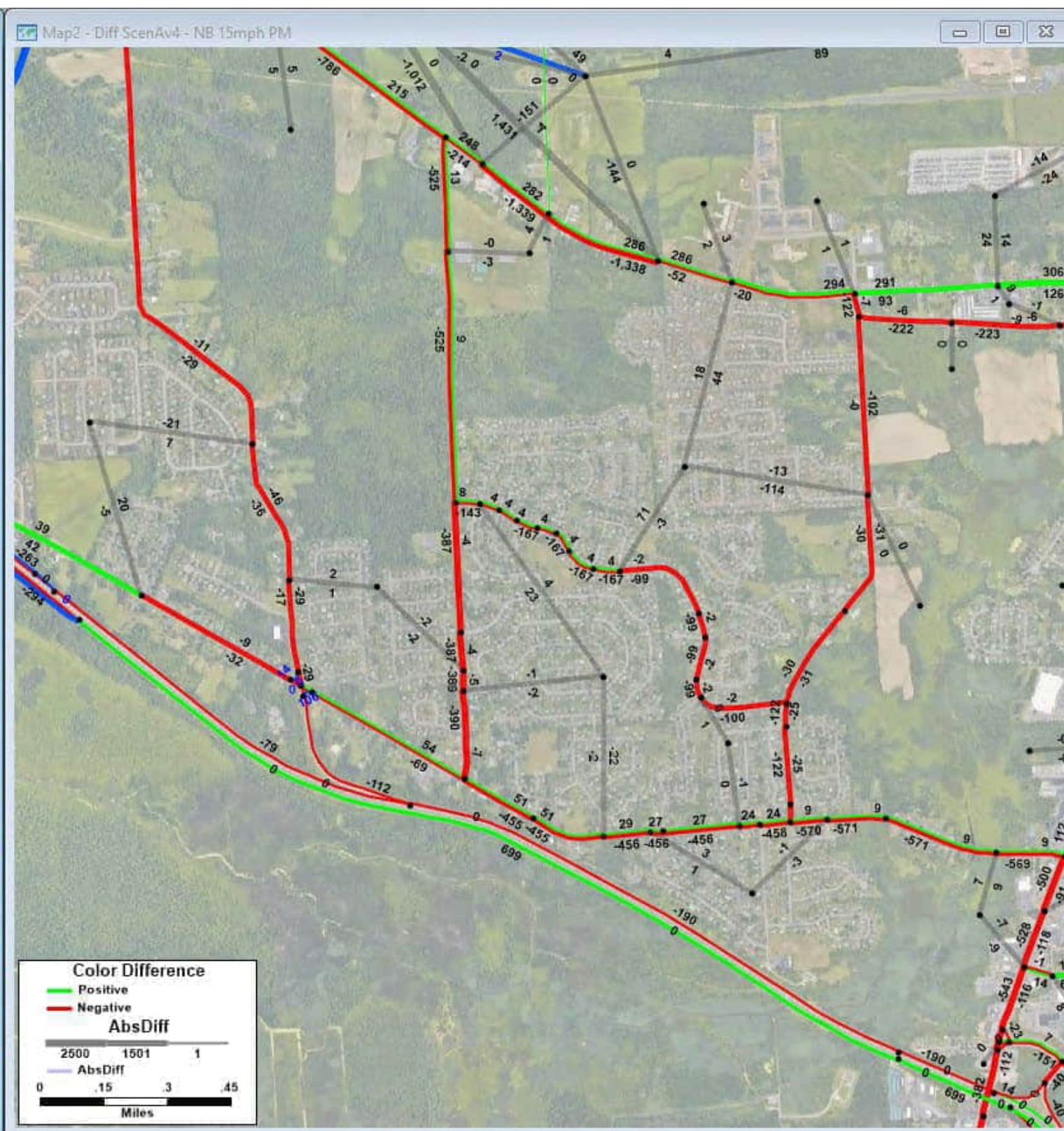
Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)





**2040 No Build PM Volumes - 2020 Existing Conditions PM Volumes = Change in PM Volumes**

No Build: All future land use and anticipated transportation projects but no Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



**2040 Scenario A v4 PM Volumes - 2040 No Build PM Volumes = Change in PM Volumes**

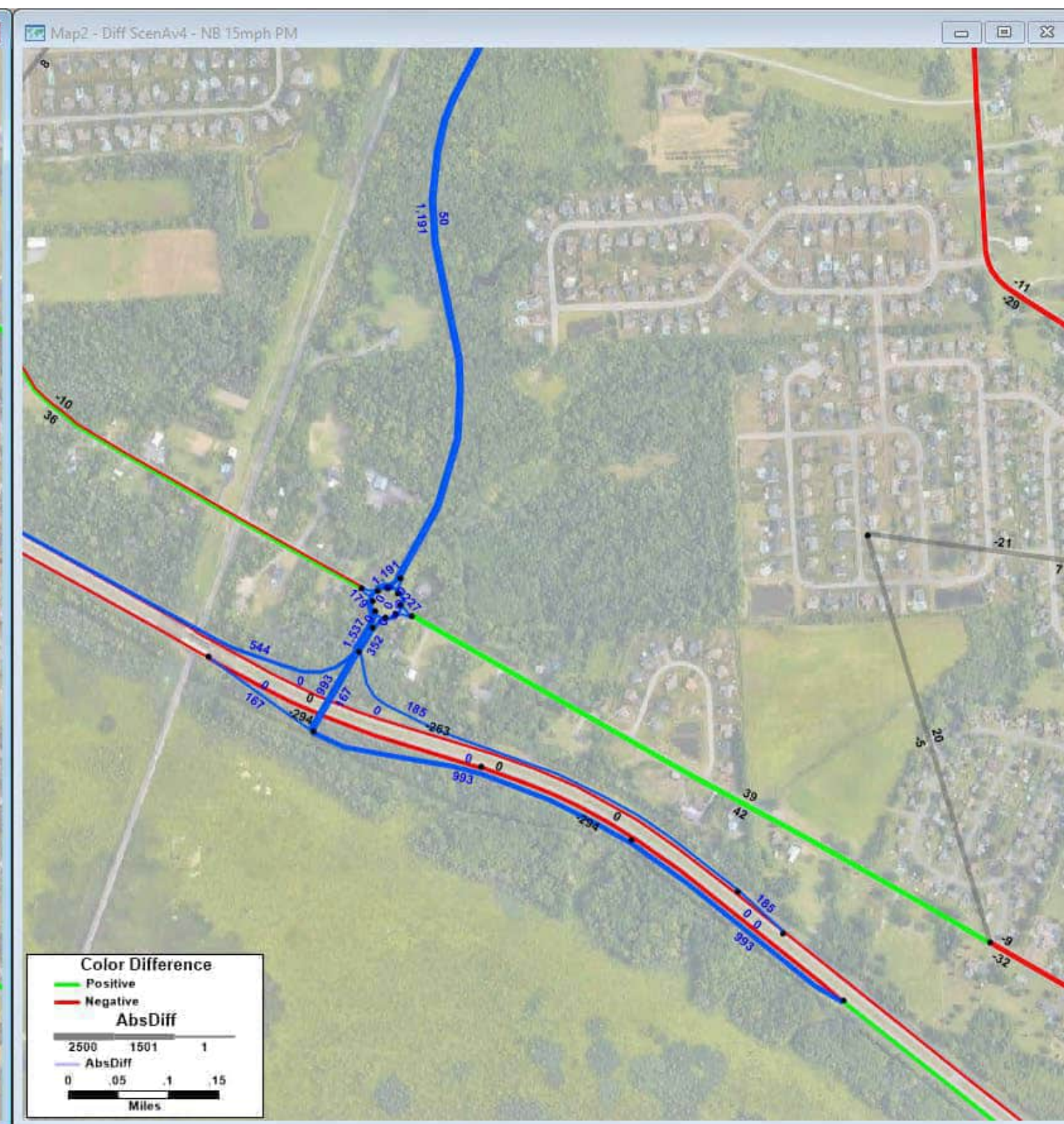
Build: All future land use and anticipated transportation projects with Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)





**2040 No Build PM Volumes - 2020 Existing Conditions PM Volumes = Change in PM Volumes**

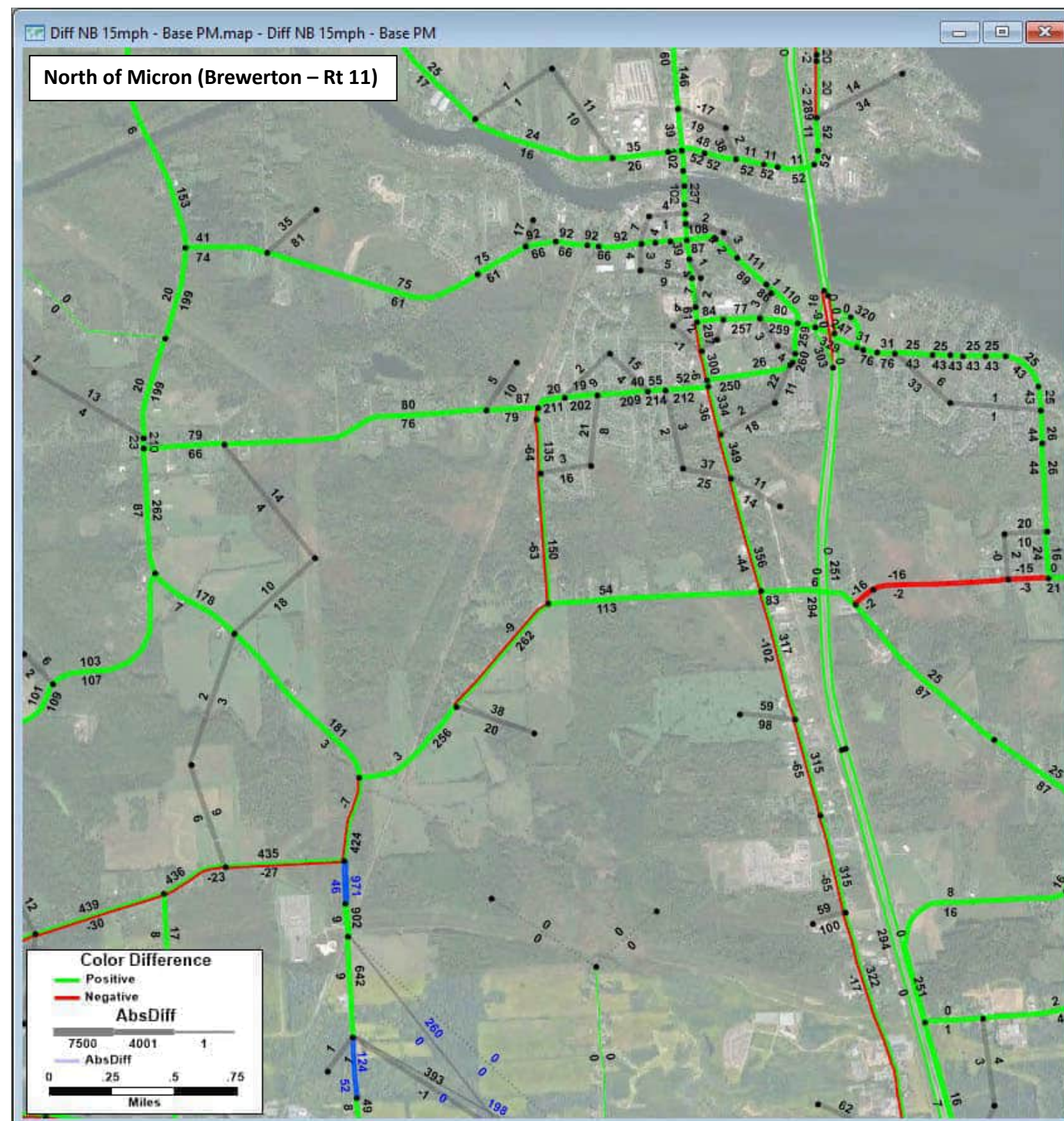
No Build: All future land use and anticipated transportation projects but no Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



**2040 Scenario A v4 PM Volumes - 2040 No Build PM Volumes = Change in PM Volumes**

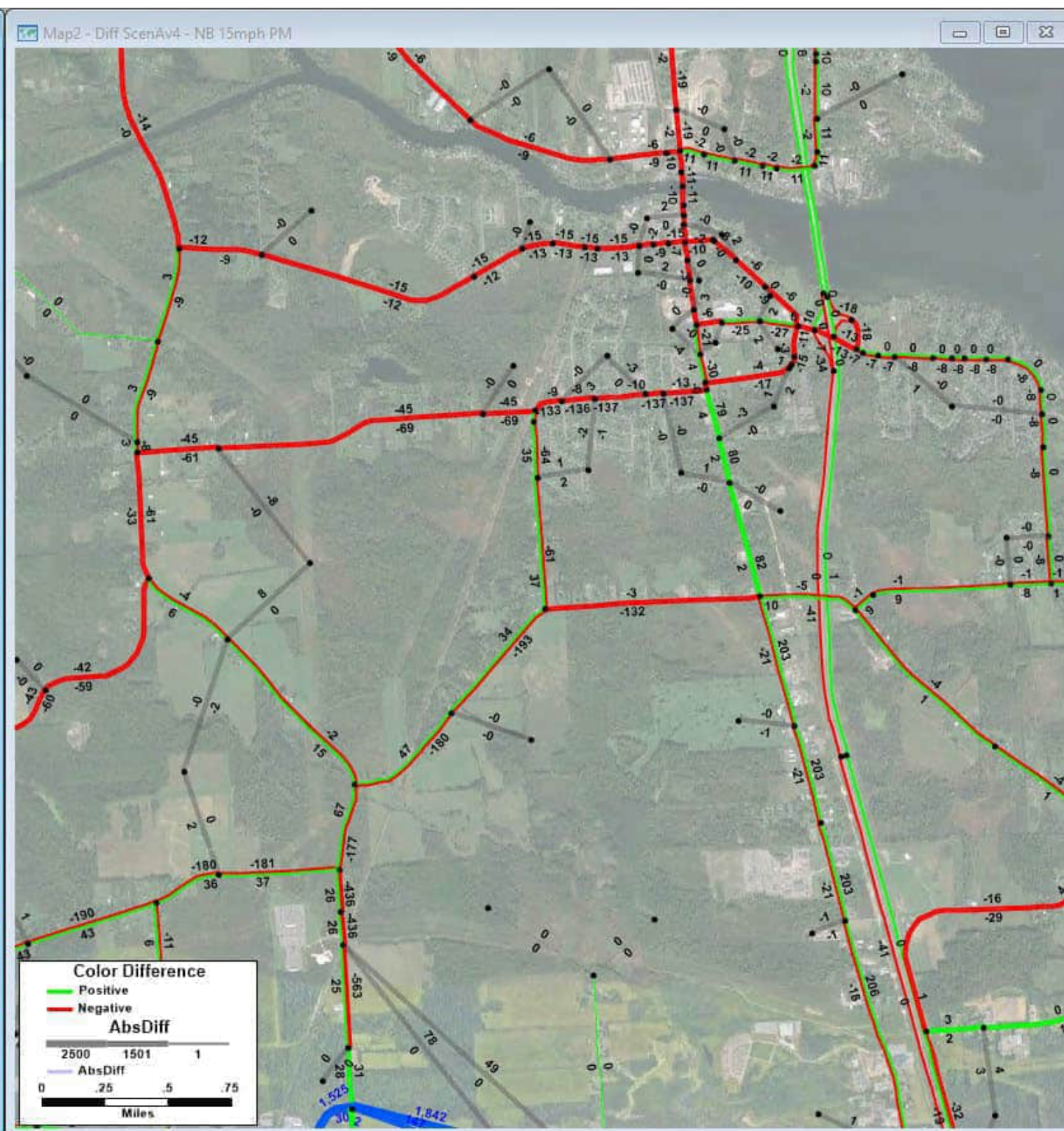
Build: All future land use and anticipated transportation projects with Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)





**2040 No Build PM Volumes - 2020 Existing Conditions PM Volumes = Change in PM Volumes**

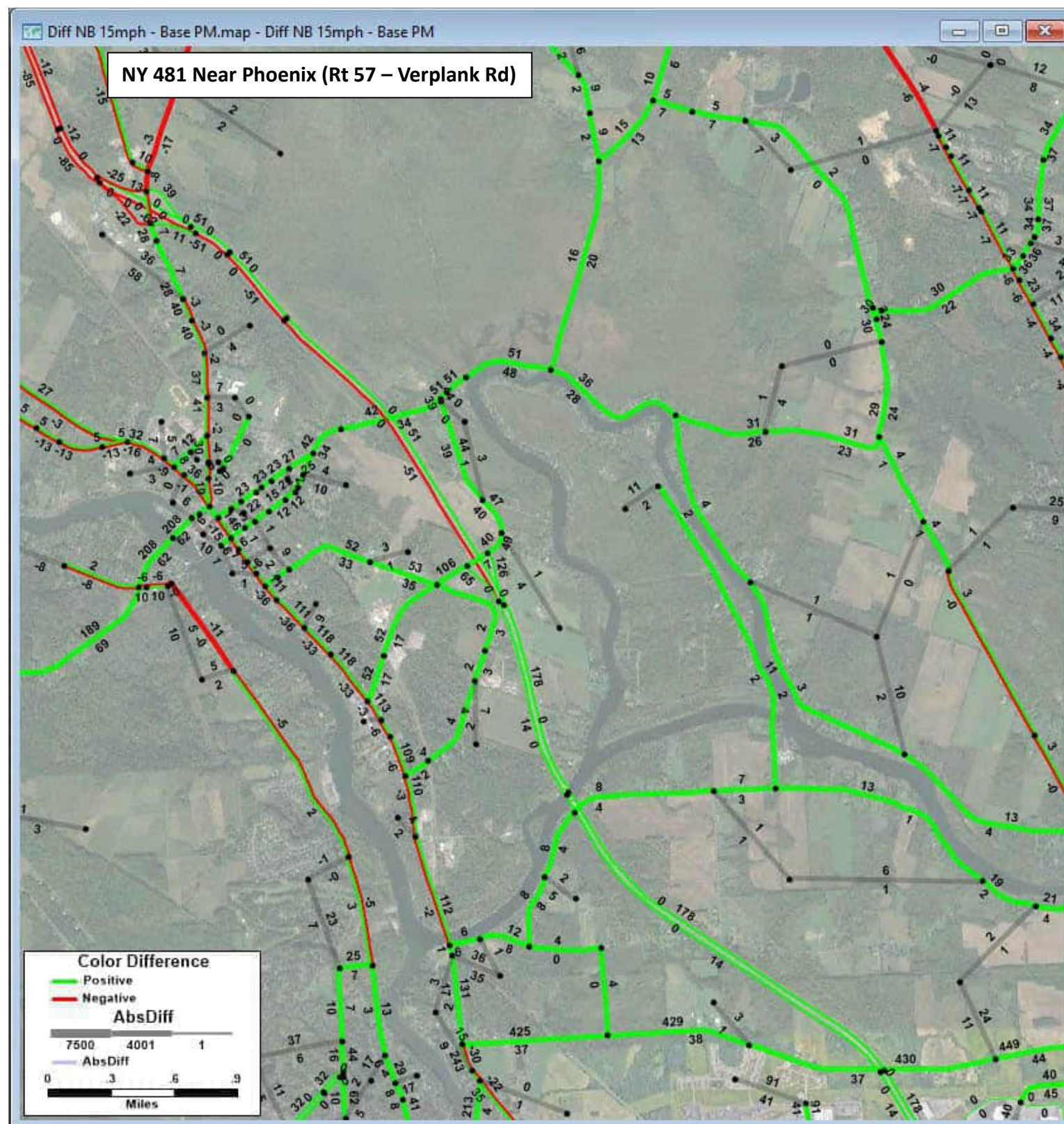
No Build: All future land use and anticipated transportation projects but no Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



**2040 Scenario A v4 PM Volumes - 2040 No Build PM Volumes = Change in PM Volumes**

Build: All future land use and anticipated transportation projects with Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

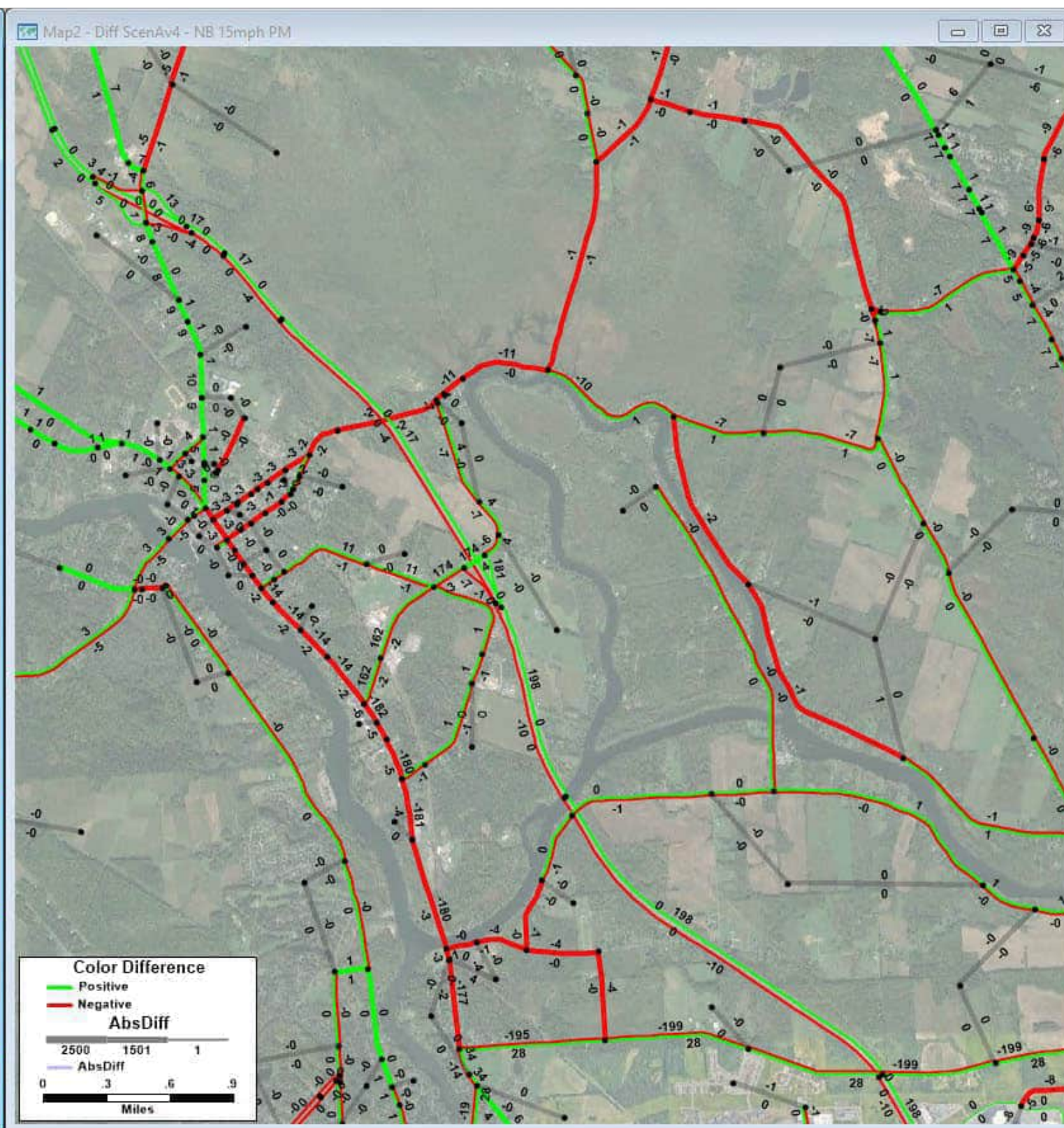




**2040 No Build PM Volumes - 2020 Existing Conditions PM Volumes = Change in PM Volumes**

No Build: All future land use and anticipated transportation projects but no Scenario A network changes

Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

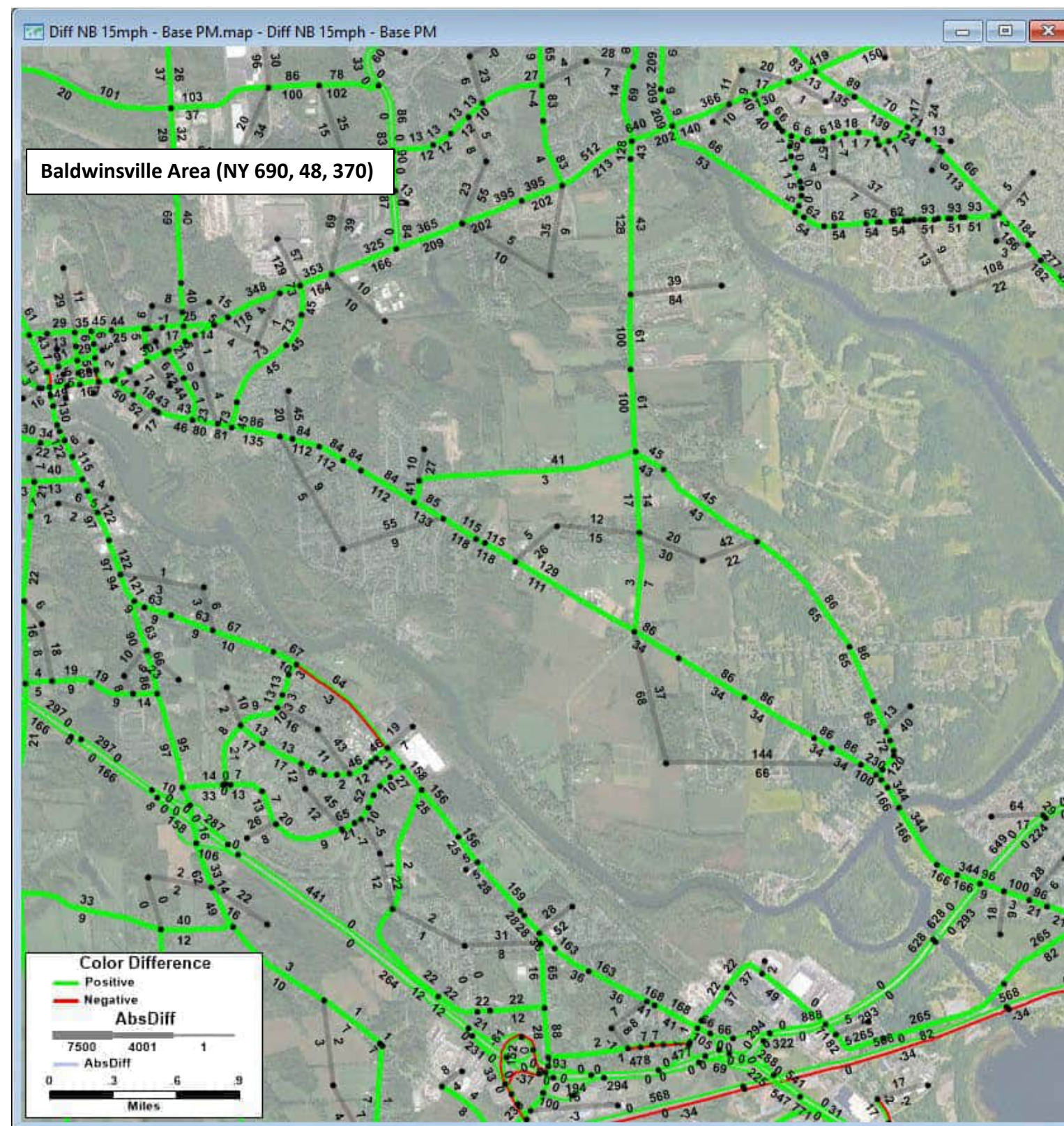


**2040 Scenario A v4 PM Volumes - 2040 No Build PM Volumes = Change in PM Volumes**

Build: All future land use and anticipated transportation projects with Scenario A network changes

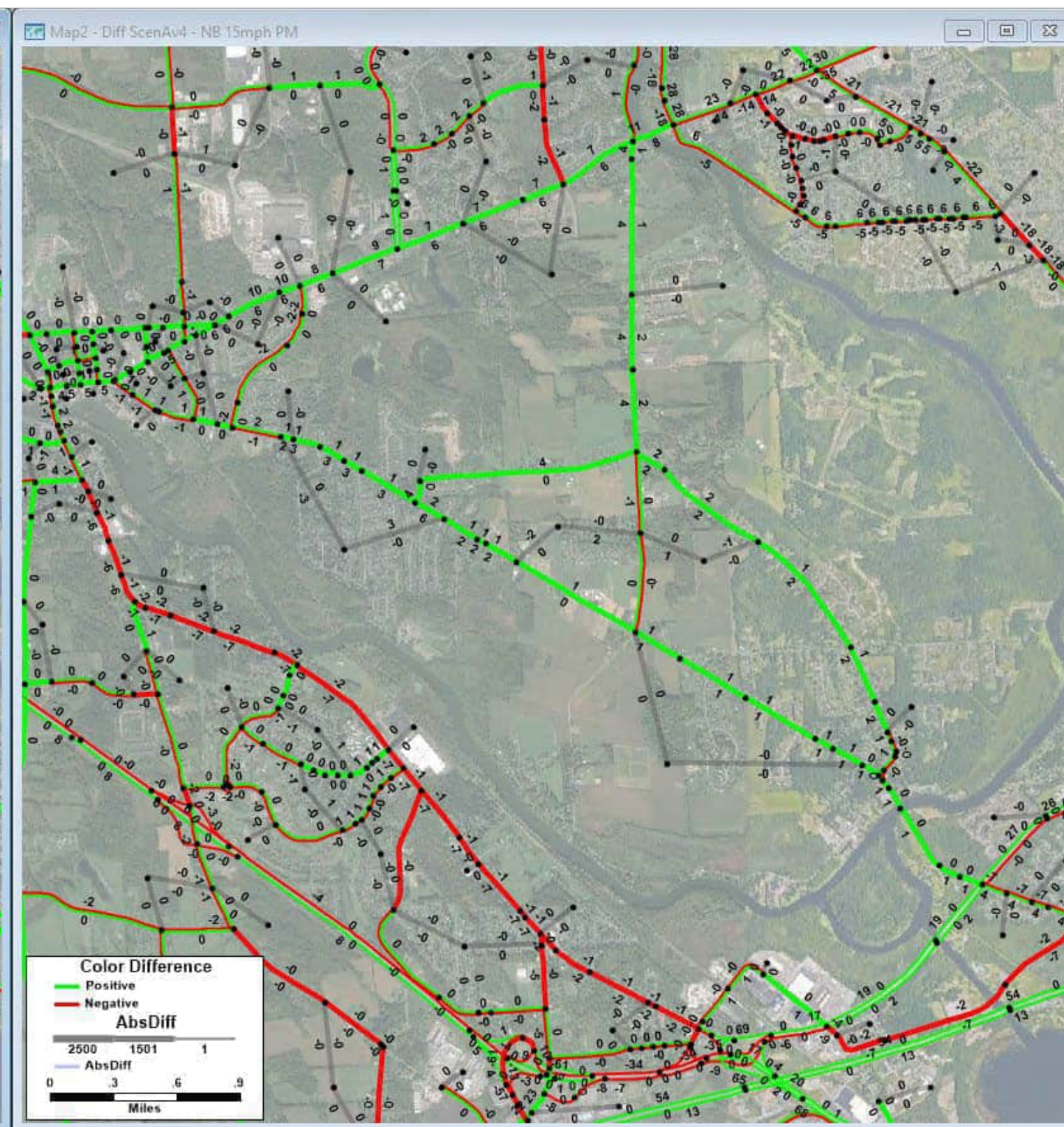
Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)





2040 No Build PM Volumes - 2020 Existing Conditions PM Volumes = Change in PM Volumes

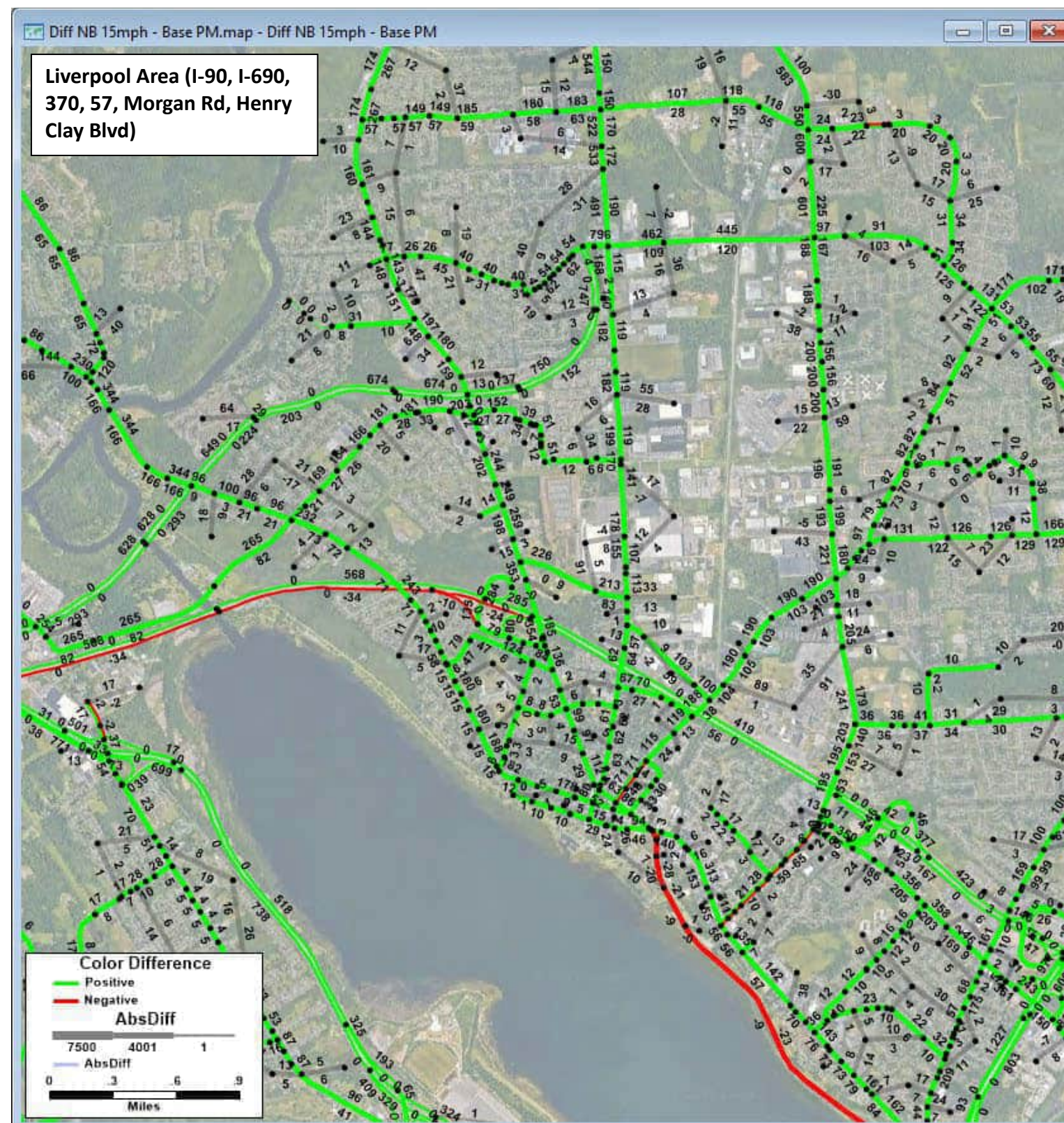
No Build: All future land use and anticipated transportation projects but no Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



2040 Scenario A v4 PM Volumes - 2040 No Build PM Volumes = Change in PM Volumes

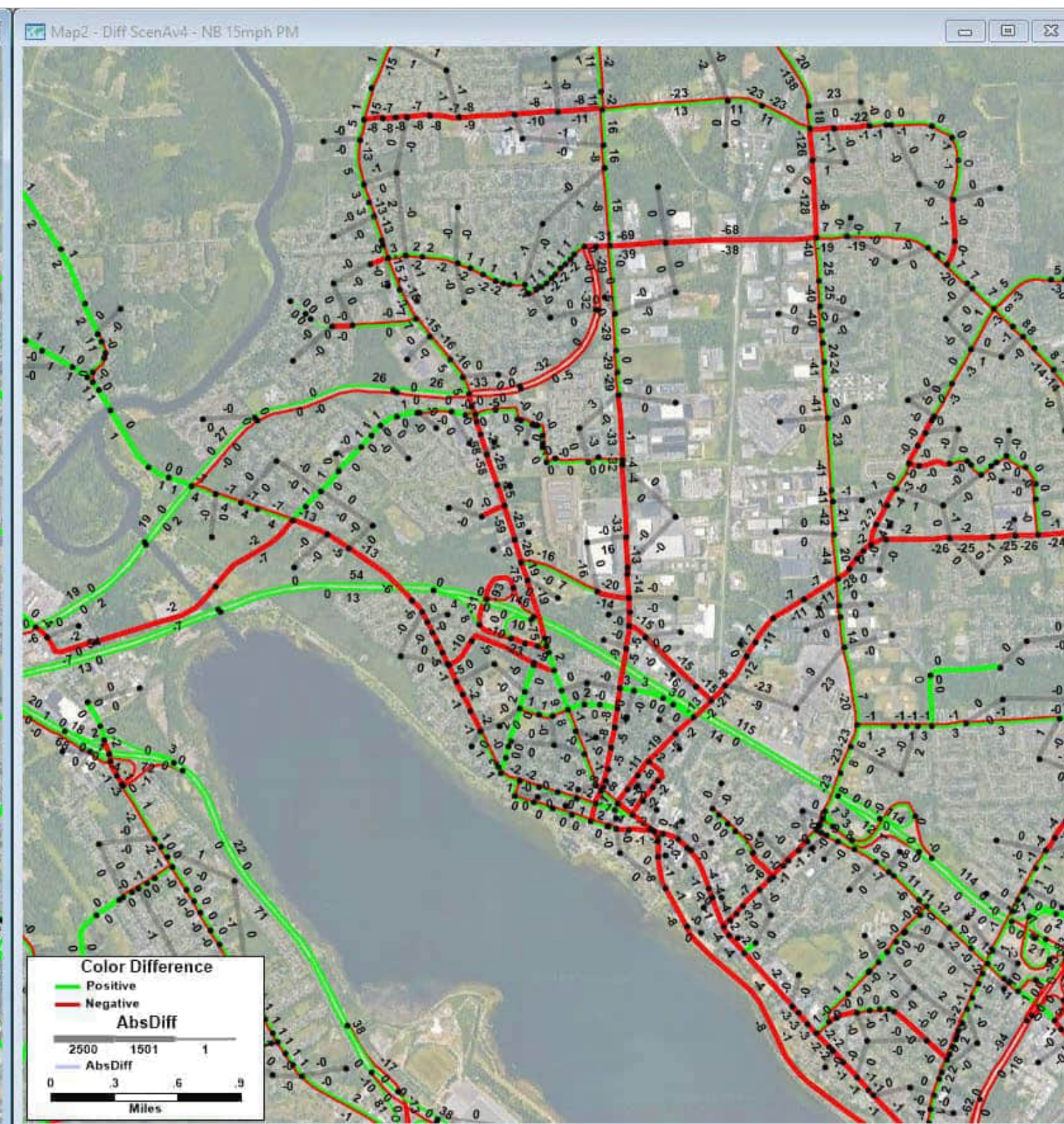
Build: All future land use and anticipated transportation projects with Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)





**2040 No Build PM Volumes - 2020 Existing Conditions PM Volumes = Change in PM Volumes**

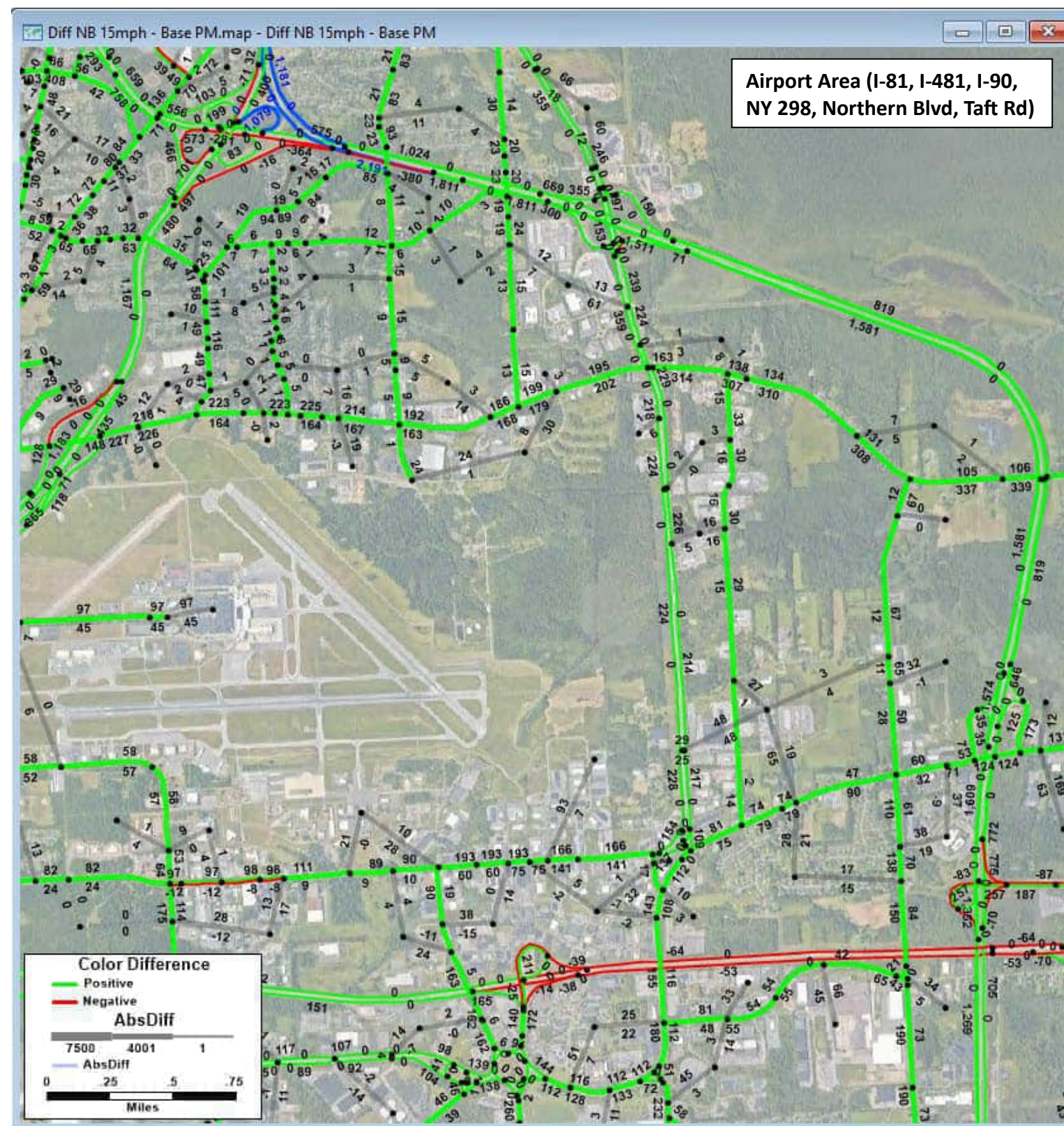
No Build: All future land use and anticipated transportation projects but no Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



**2040 Scenario A v4 PM Volumes - 2040 No Build PM Volumes = Change in PM Volumes**

Build: All future land use and anticipated transportation projects with Scenario A network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

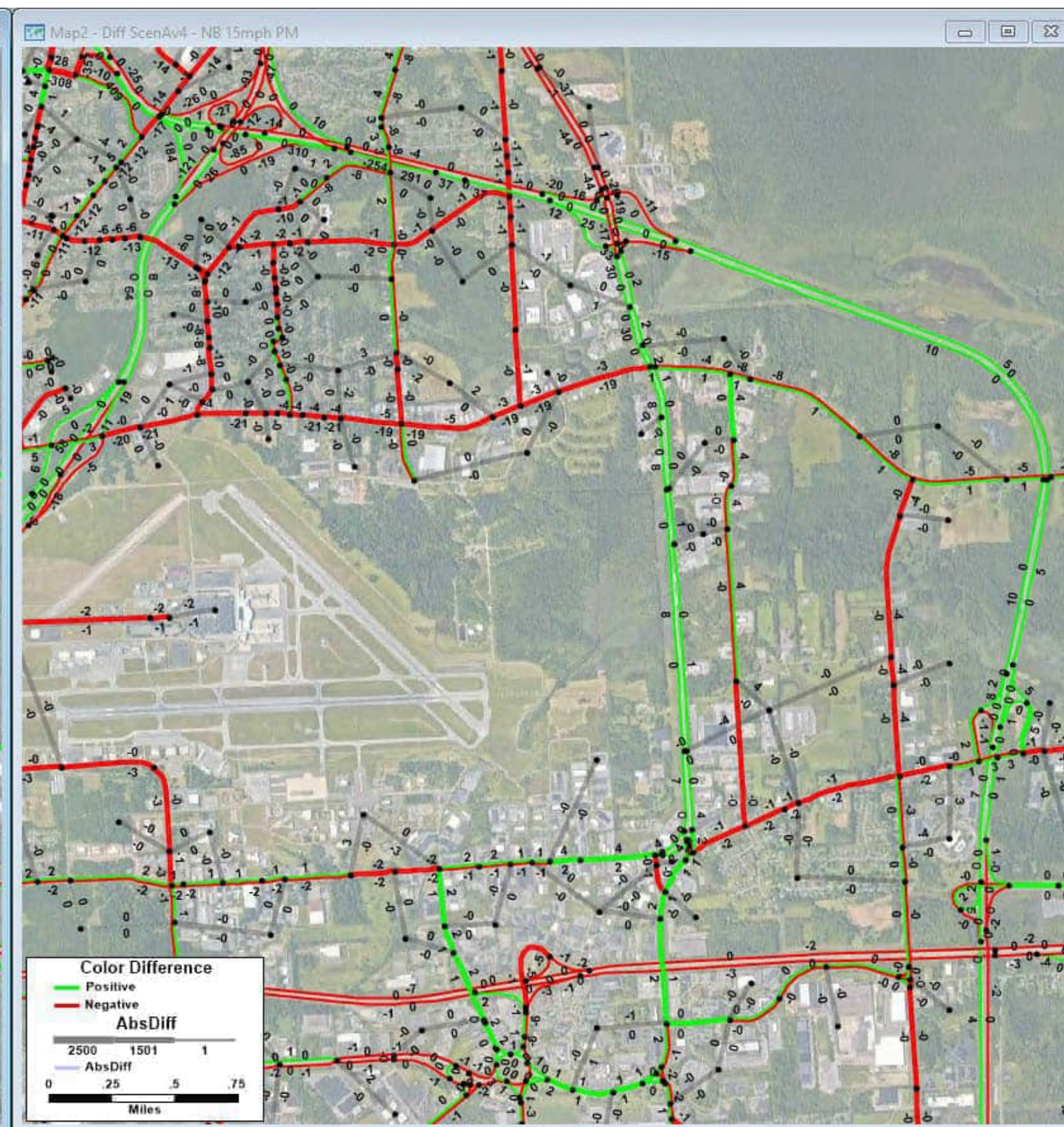




**2040 No Build PM Volumes - 2020 Existing Conditions PM Volumes = Change in PM Volumes**

No Build: All future land use and anticipated transportation projects but no Scenario A network changes

Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



**2040 Scenario A v4 PM Volumes - 2040 No Build PM Volumes = Change in PM Volumes**

Build: All future land use and anticipated transportation projects with Scenario A network changes

Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



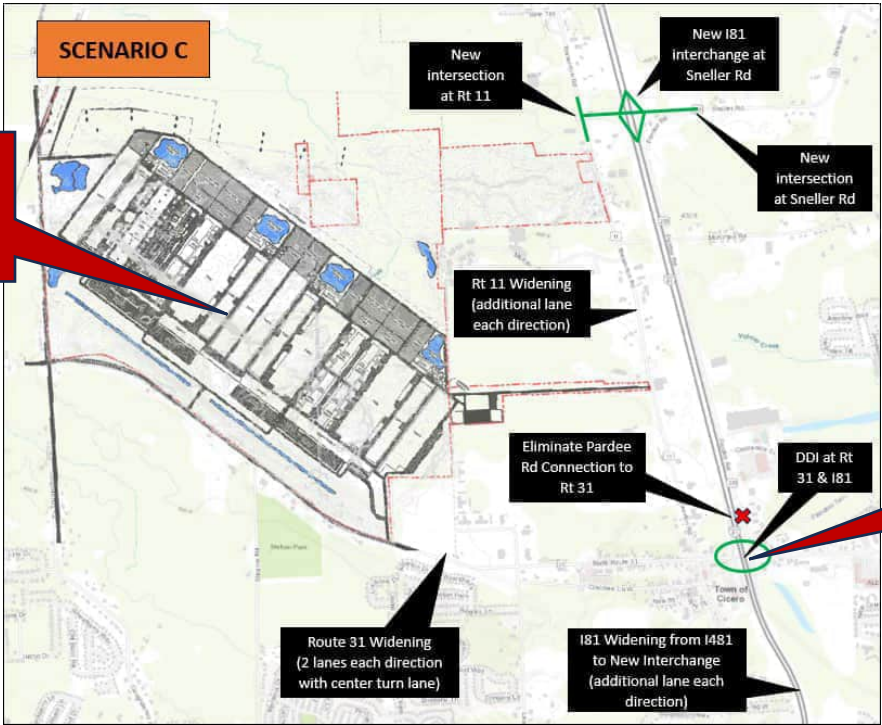
SMTC Travel Demand Model Results: **Scenario C v1** (New I81 Interchange & SPUI @ Rt31 & I81) – **AM PEAK HOUR CHANGE IN VOLUMES**

The graphic to the right shows the general assumptions for **Scenario C v1** →

Notes:

- All 2040 scenarios include projected future land use growth (including Micron)
- **RED** callouts note the revisions made to Scenario C

Equal travel time for  
all Micron TAZ  
centroid connectors



The graphic to the right is an example of what is included in this document →

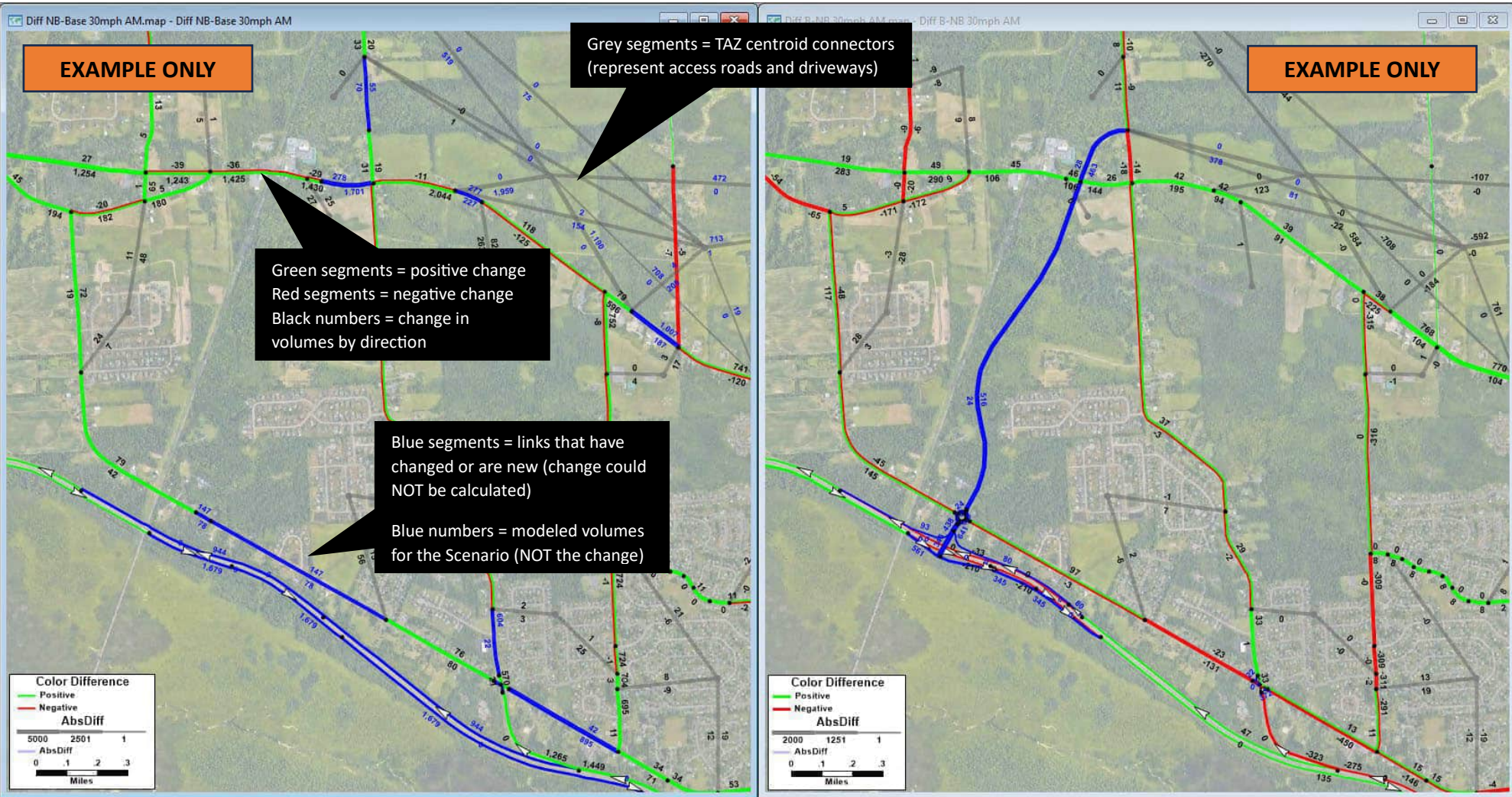
The map on the left displays the change in **AM** volumes between the 2020 existing conditions base model to the 2040 No Build (**2040 NB AM Volumes less 2020 AM volumes**). No Build in this case refers to no network improvements, the build future land use conditions are included (including Micron).

The map on the right displays the change in **AM** volumes between the 2040 No Build to the 2040 Scenario “X” Build (**2040 Scenario “X” Build AM Volumes less 2040 NB AM volumes**).

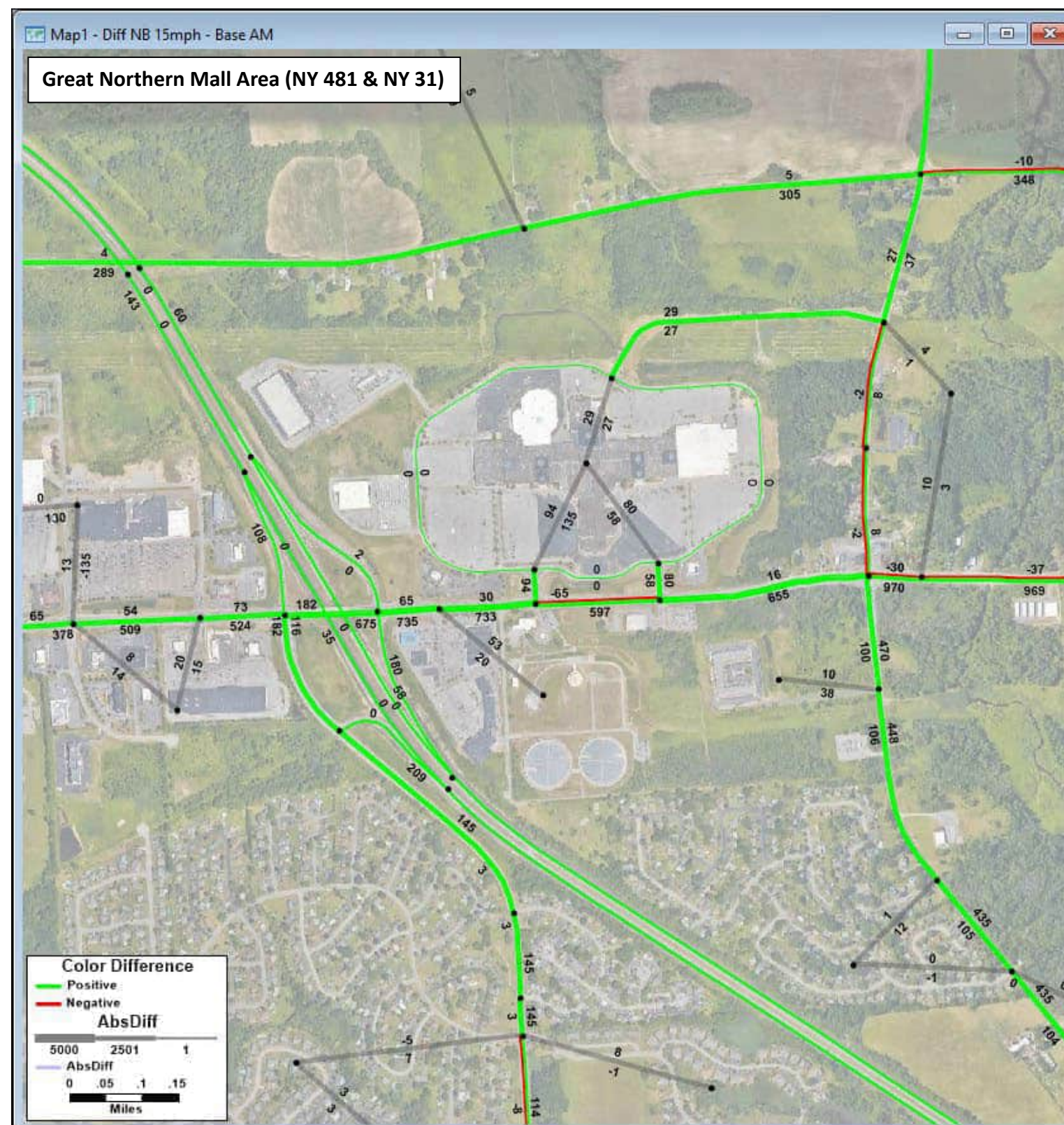
MAP NOTES:

- **Green** segments = positive change between identified scenarios
- **Red** segments = negative change between identified scenarios
- **Black numbers** = change in volumes by direction
- **Blue** segments = links that have changed or are new for that scenario therefore a change can **NOT** be calculated
- **Blue numbers** = modeled volume by direction on that segment for that scenario (change could NOT be calculated for that link)
- **Gray** segments = TAZ centroid connectors (general representation of access roads and driveways)

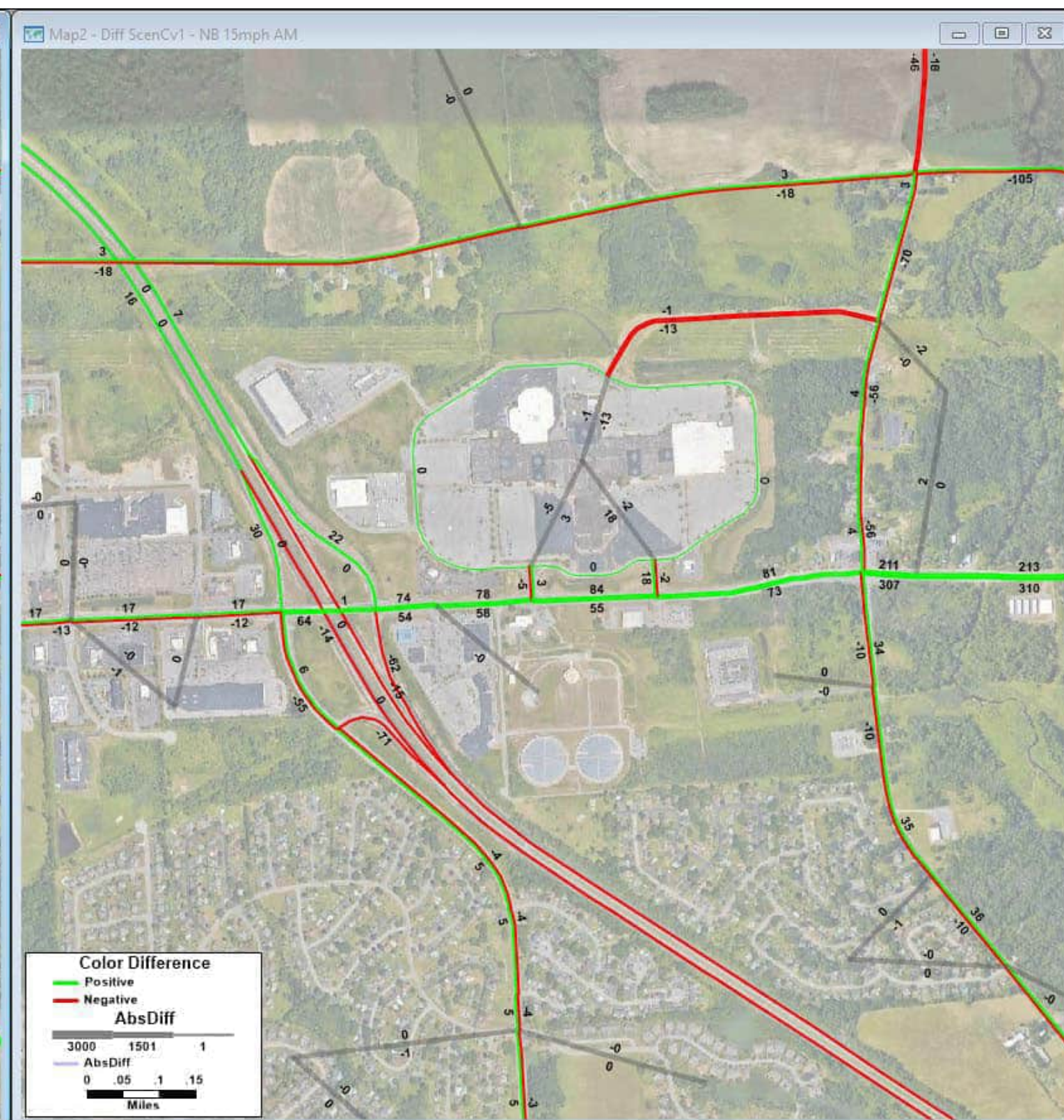
To get total future volume on a segment add up the numbers from both maps and then add that to existing traffic counts.





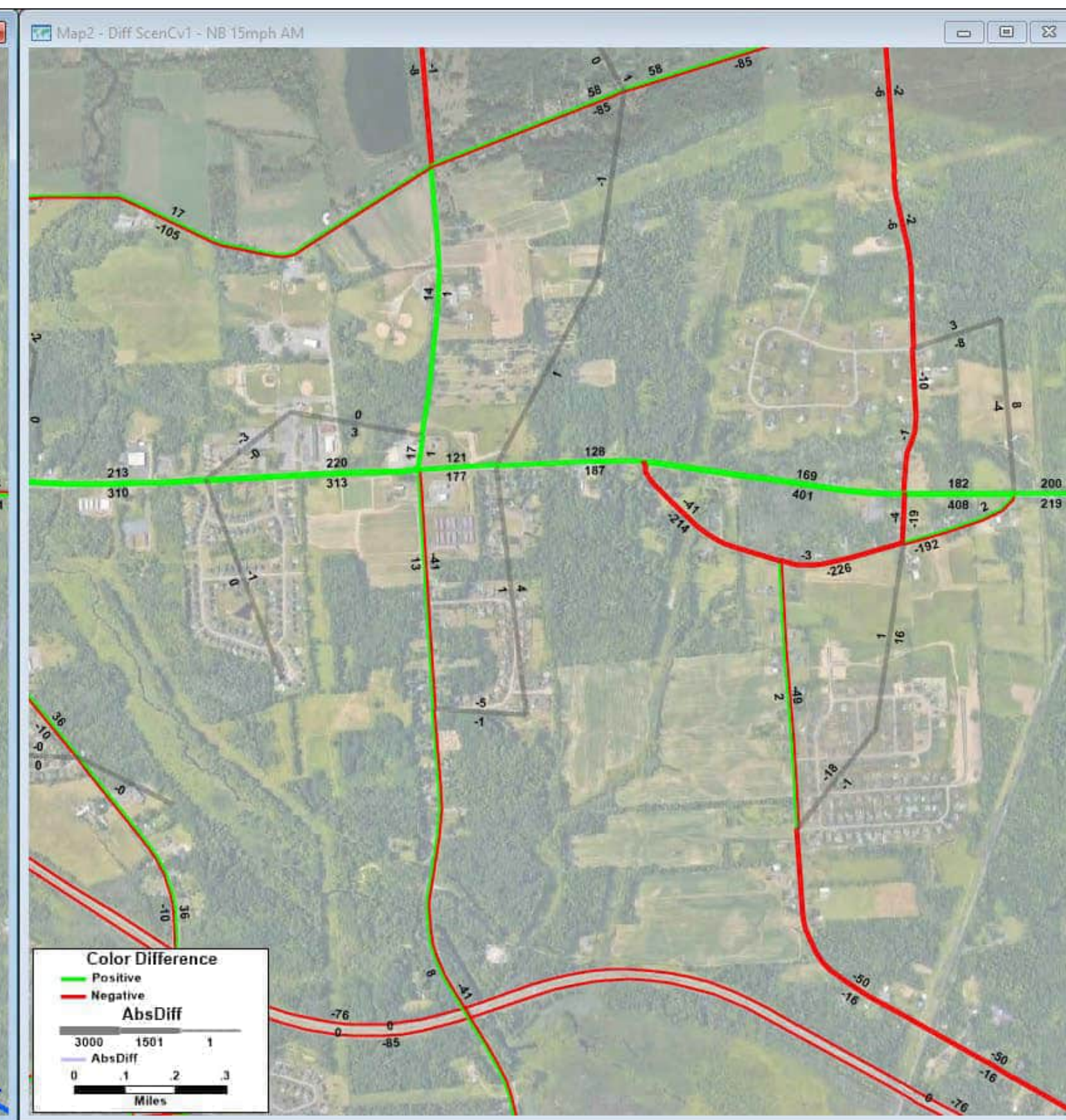
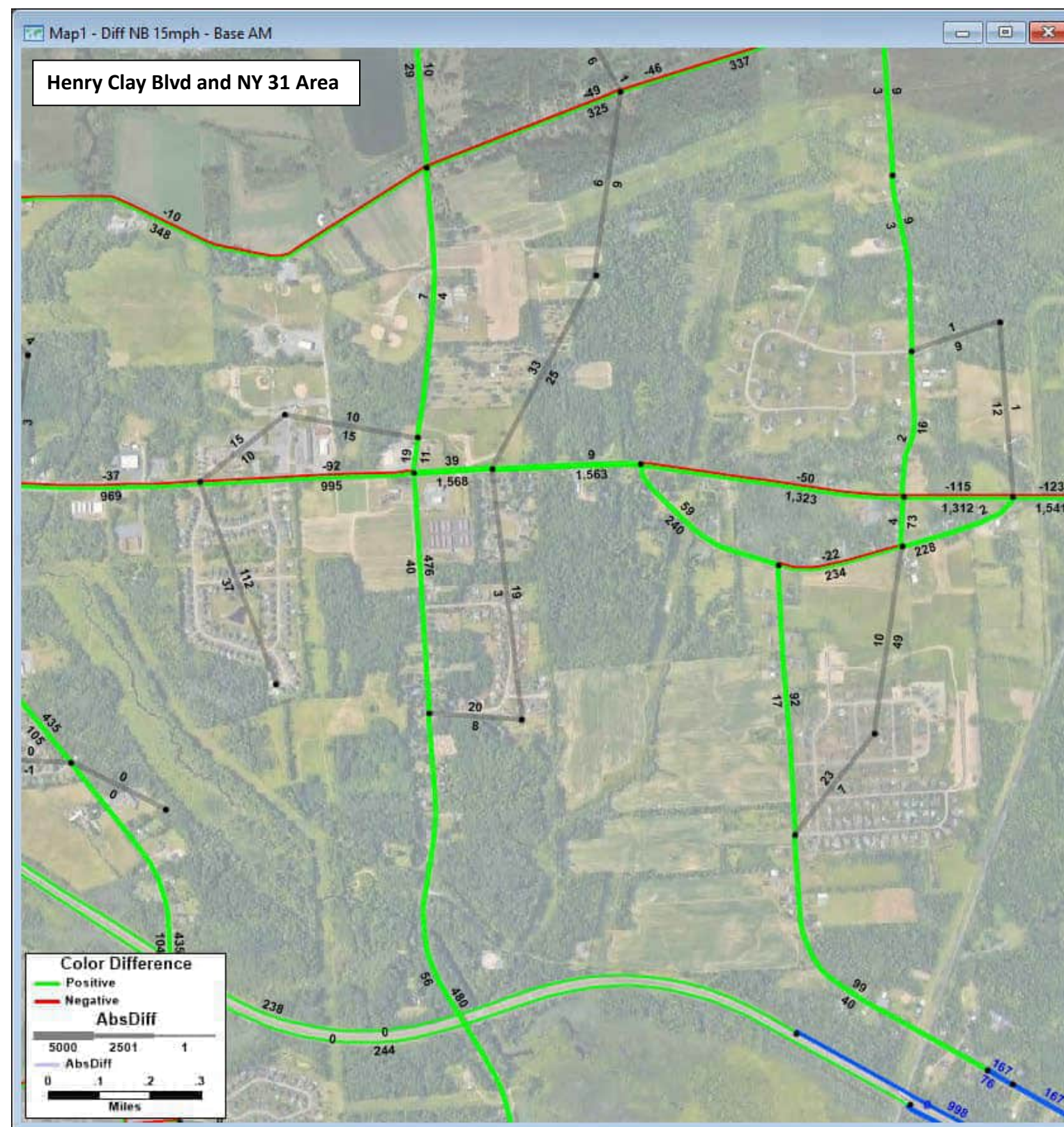


**2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes**  
No Build: All future land use and anticipated transportation projects but no Scenario C network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



**2040 Scenario C v1 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes**  
Build: All future land use and anticipated transportation projects with Scenario C network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)





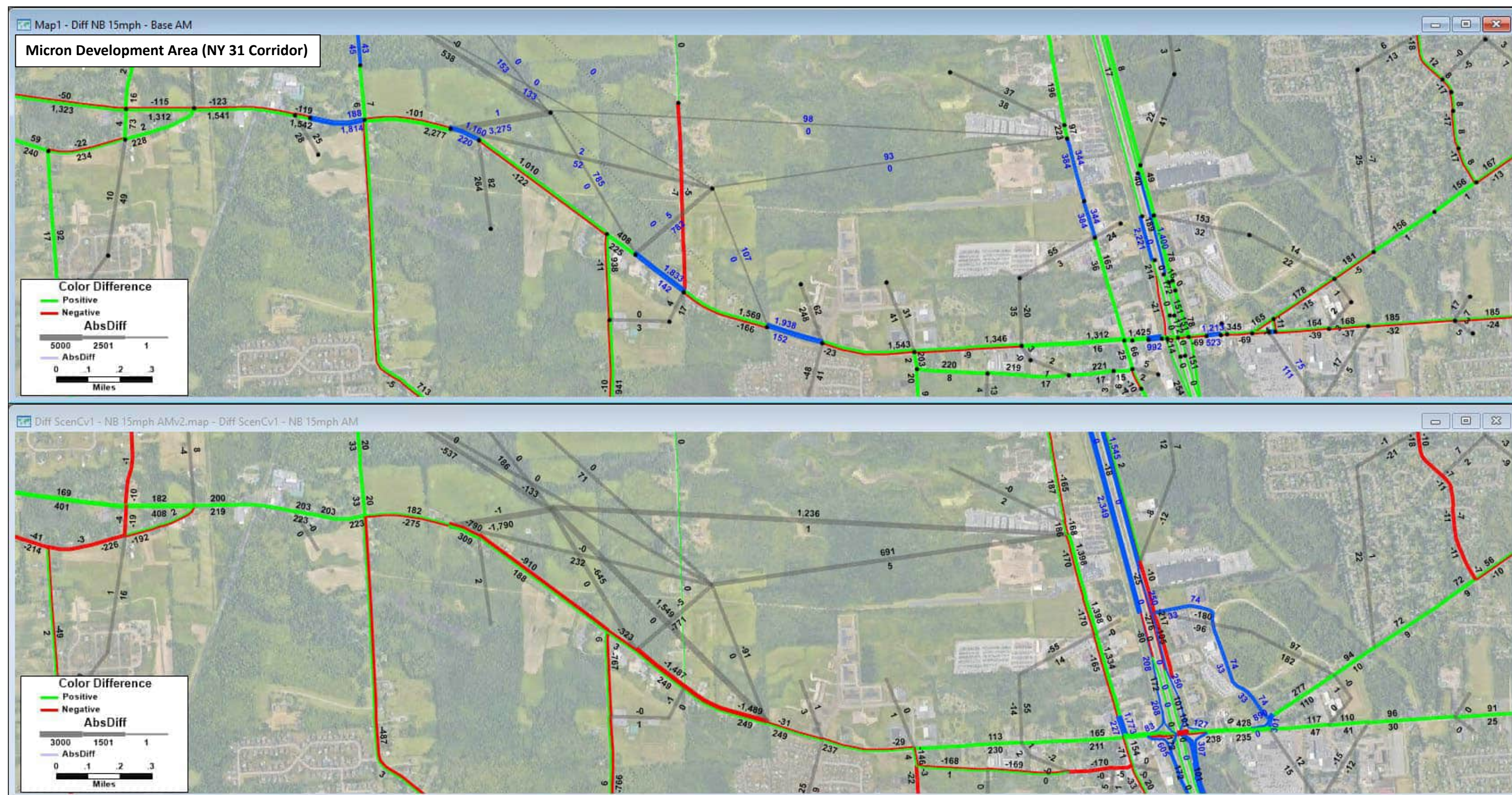
**2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes**

No Build: All future land use and anticipated transportation projects but no Scenario C network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

**2040 Scenario C v1 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes**

Build: All future land use and anticipated transportation projects with Scenario C network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

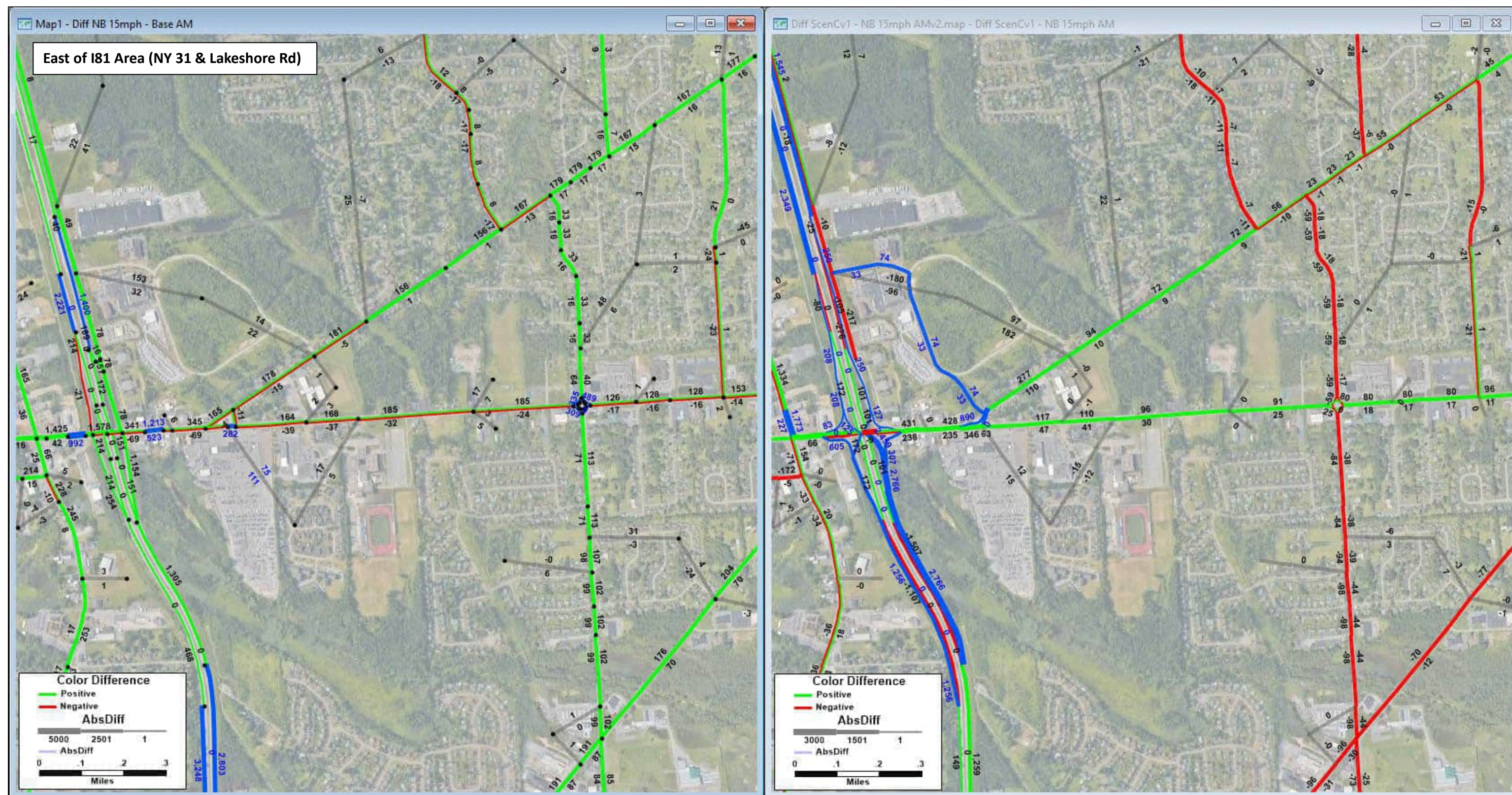




**(TOP MAP) 2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes**  
No Build: All future land use and anticipated transportation projects but no Scenario C network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

**(Bottom MAP) 2040 Scenario C v1 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes**  
Build: All future land use and anticipated transportation projects with Scenario C network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

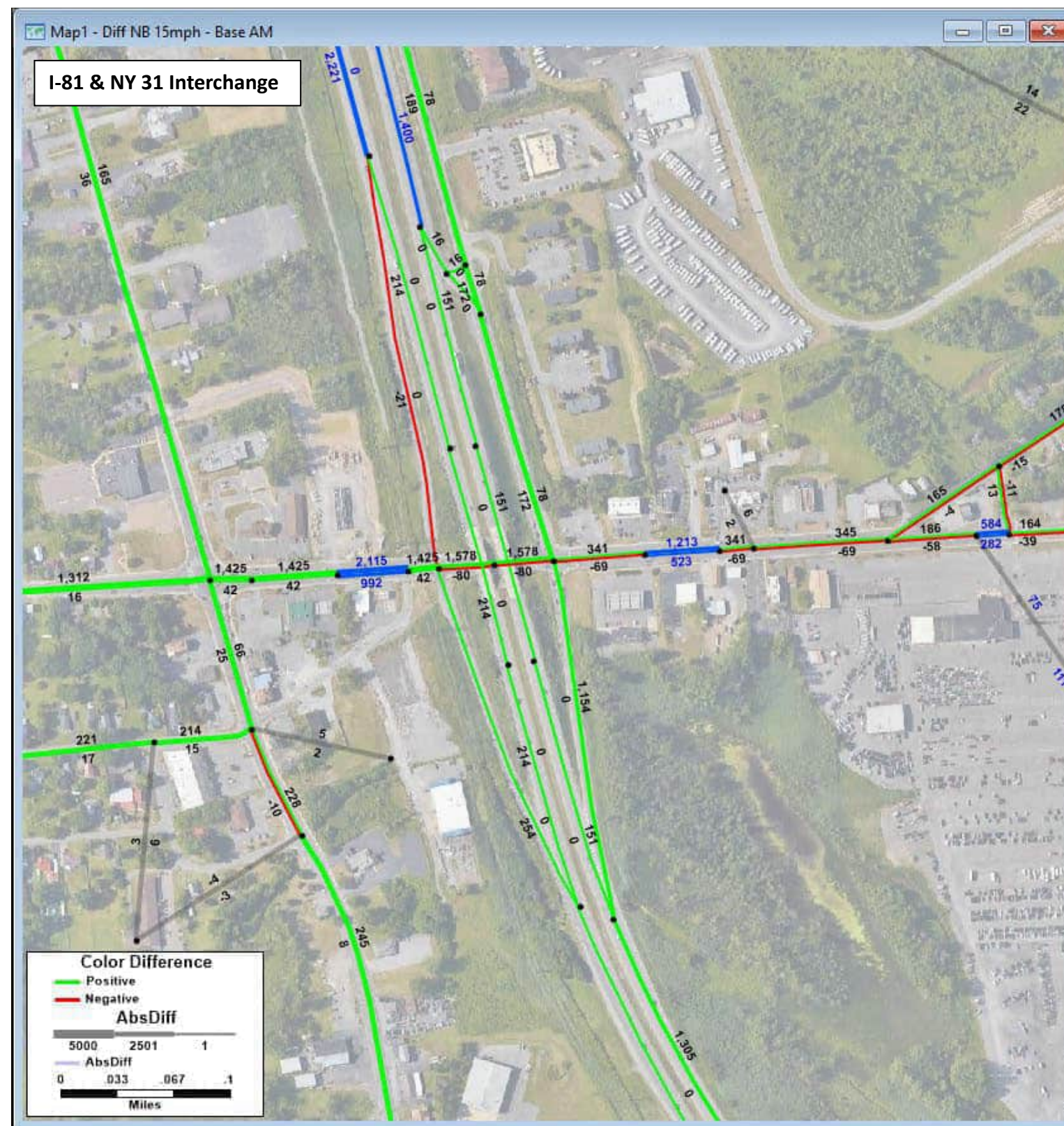




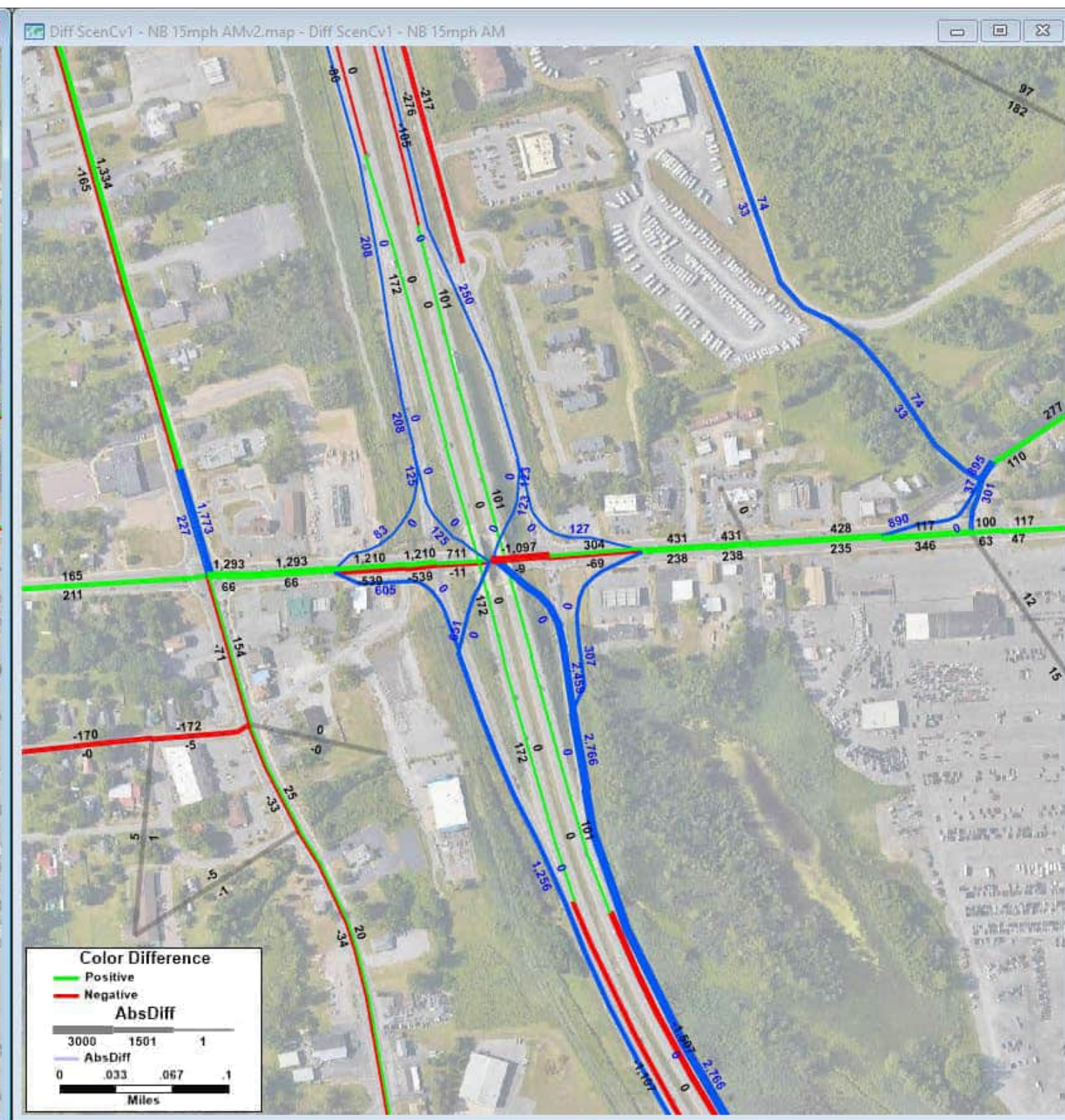
**2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes**  
No Build: All future land use and anticipated transportation projects but no Scenario C network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

**2040 Scenario C v1 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes**  
Build: All future land use and anticipated transportation projects with Scenario C network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



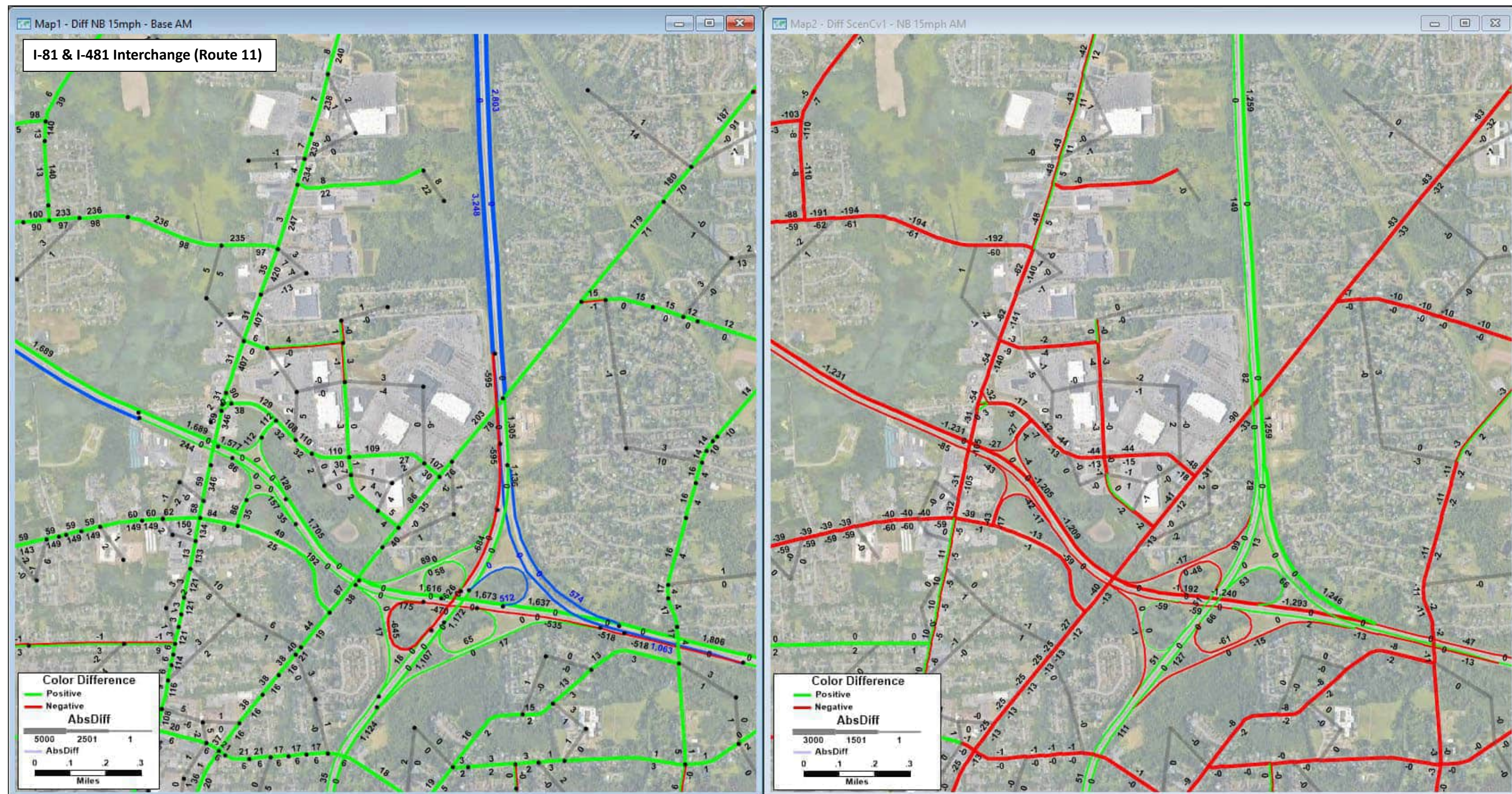


**2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes**  
No Build: All future land use and anticipated transportation projects but no Scenario C network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



**2040 Scenario C v1 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes**  
Build: All future land use and anticipated transportation projects with Scenario C network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

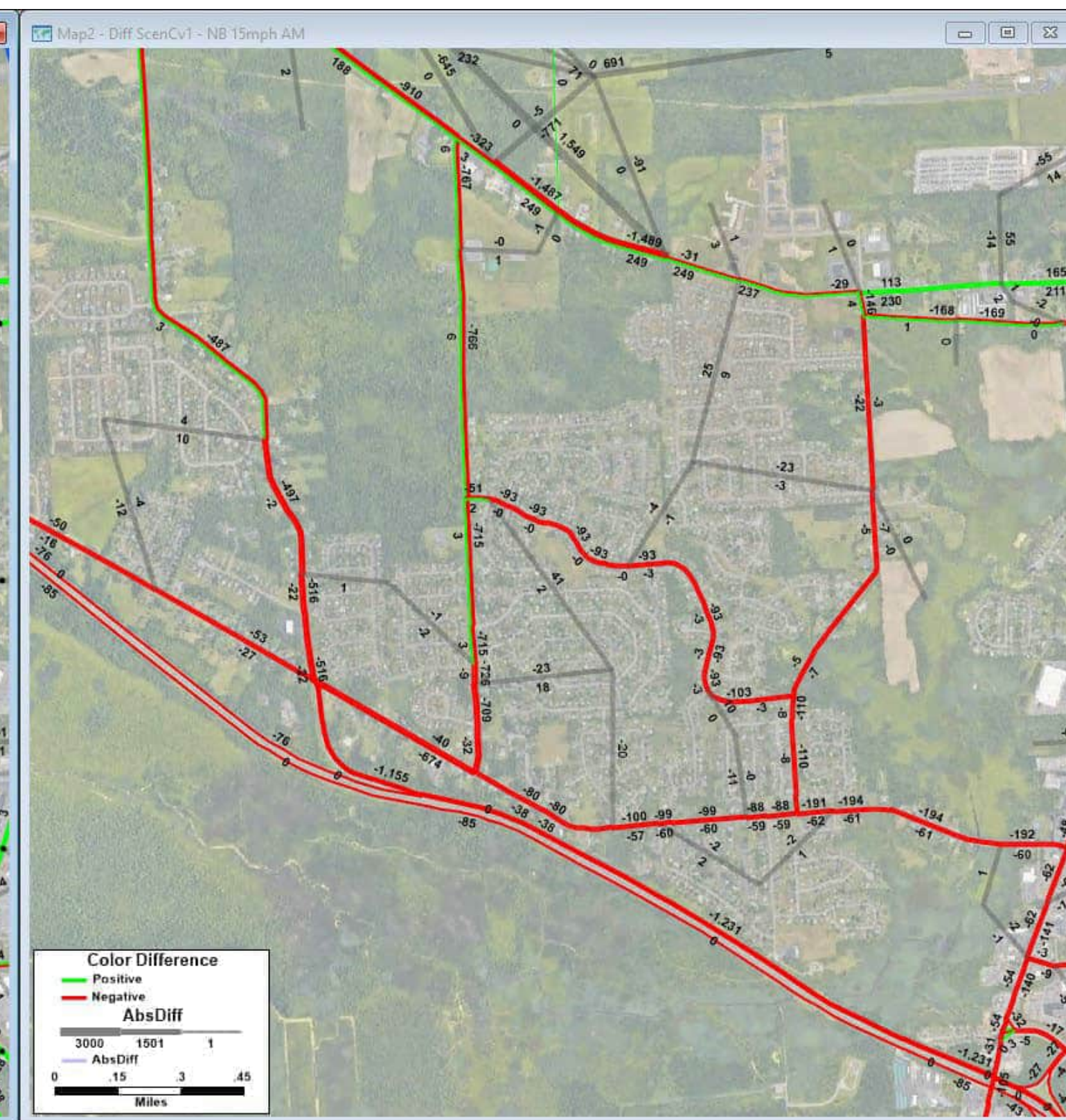
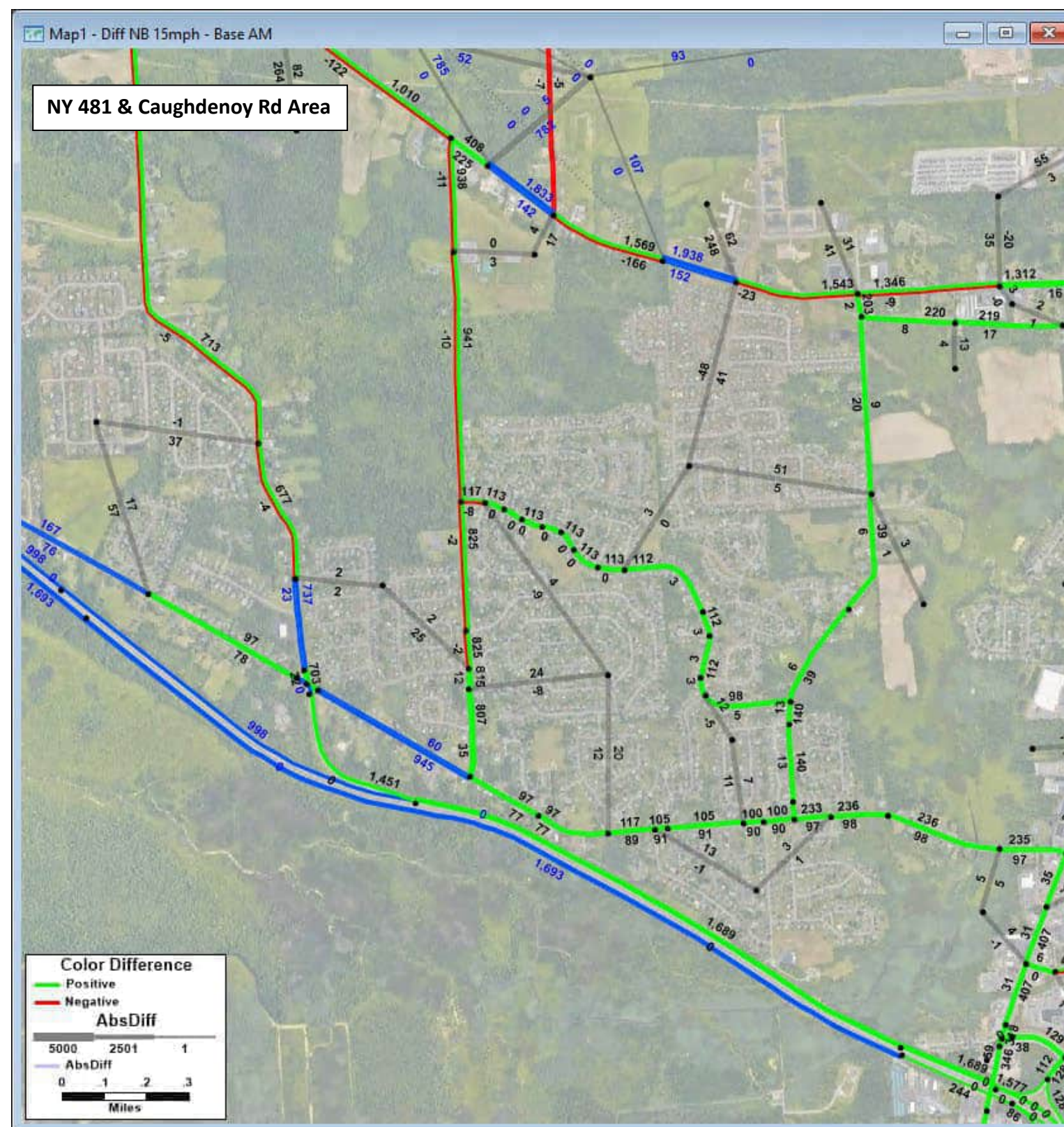




**2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes**  
No Build: All future land use and anticipated transportation projects but no Scenario C network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

**2040 Scenario C v1 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes**  
Build: All future land use and anticipated transportation projects with Scenario C network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

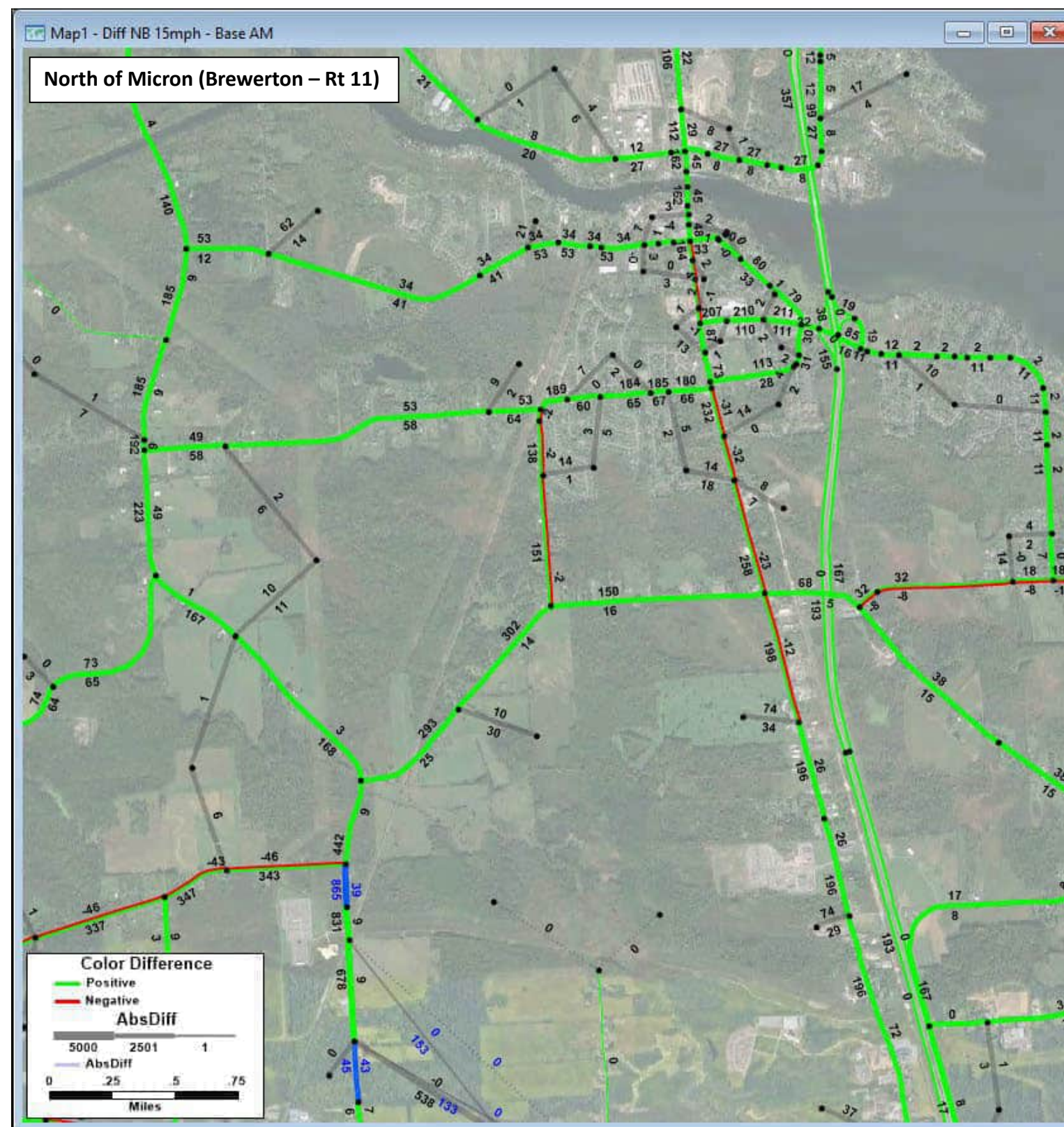




**2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes**  
No Build: All future land use and anticipated transportation projects but no Scenario C network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

**2040 Scenario C v1 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes**  
Build: All future land use and anticipated transportation projects with Scenario C network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

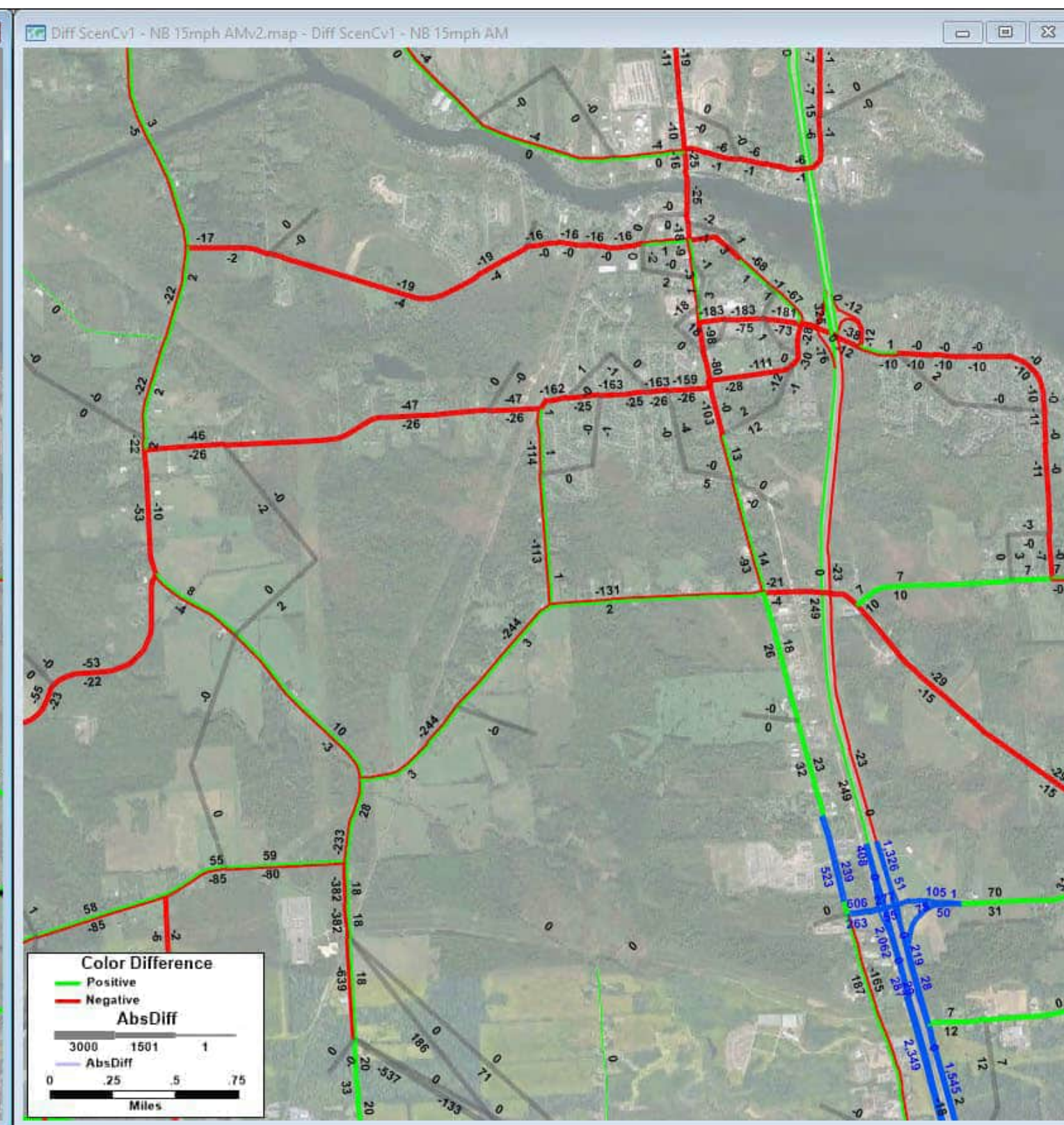




**2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes**

No Build: All future land use and anticipated transportation projects but no Scenario C network changes

Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

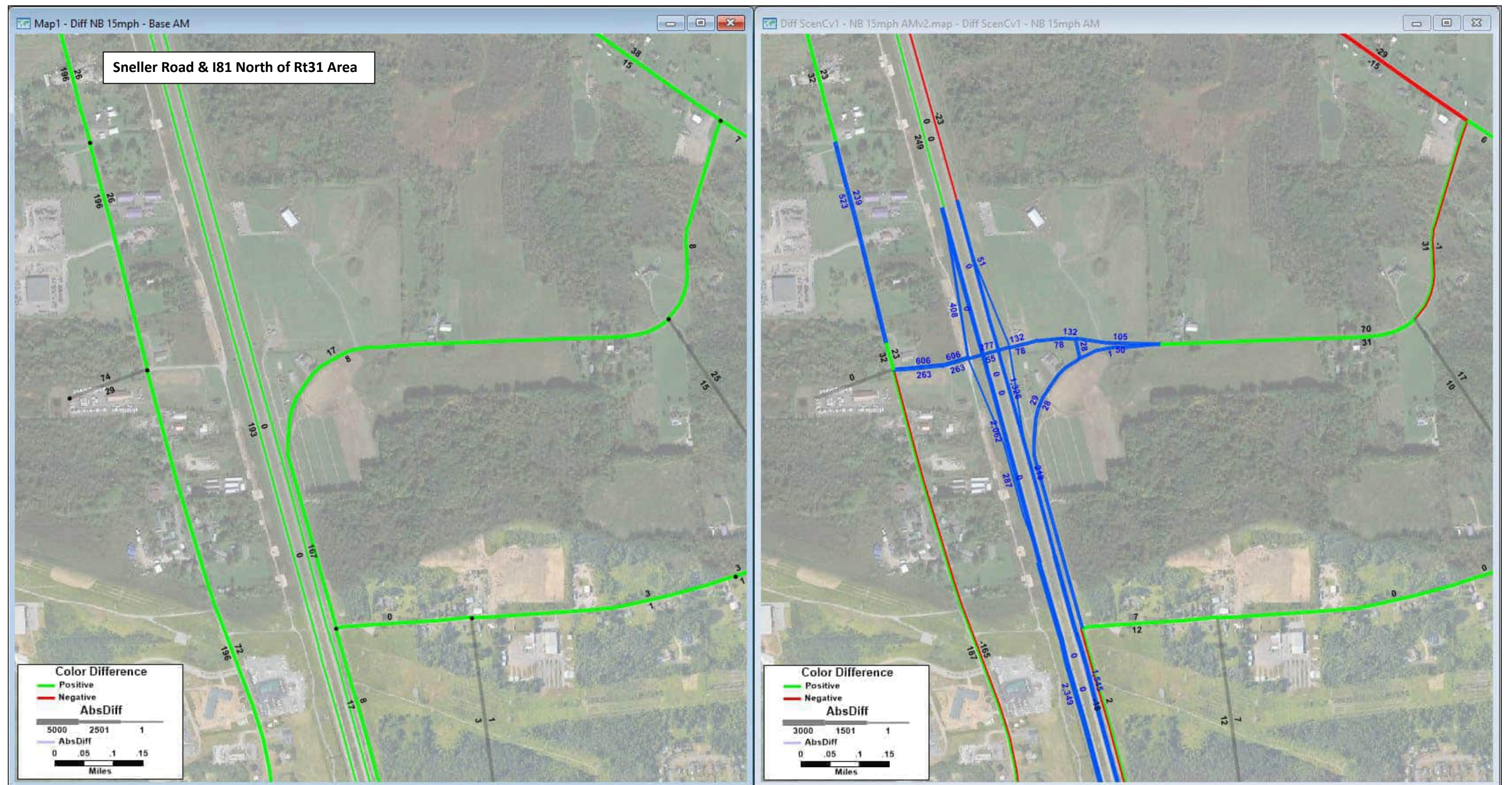


**2040 Scenario C v1 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes**

Build: All future land use and anticipated transportation projects with Scenario C network changes

Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

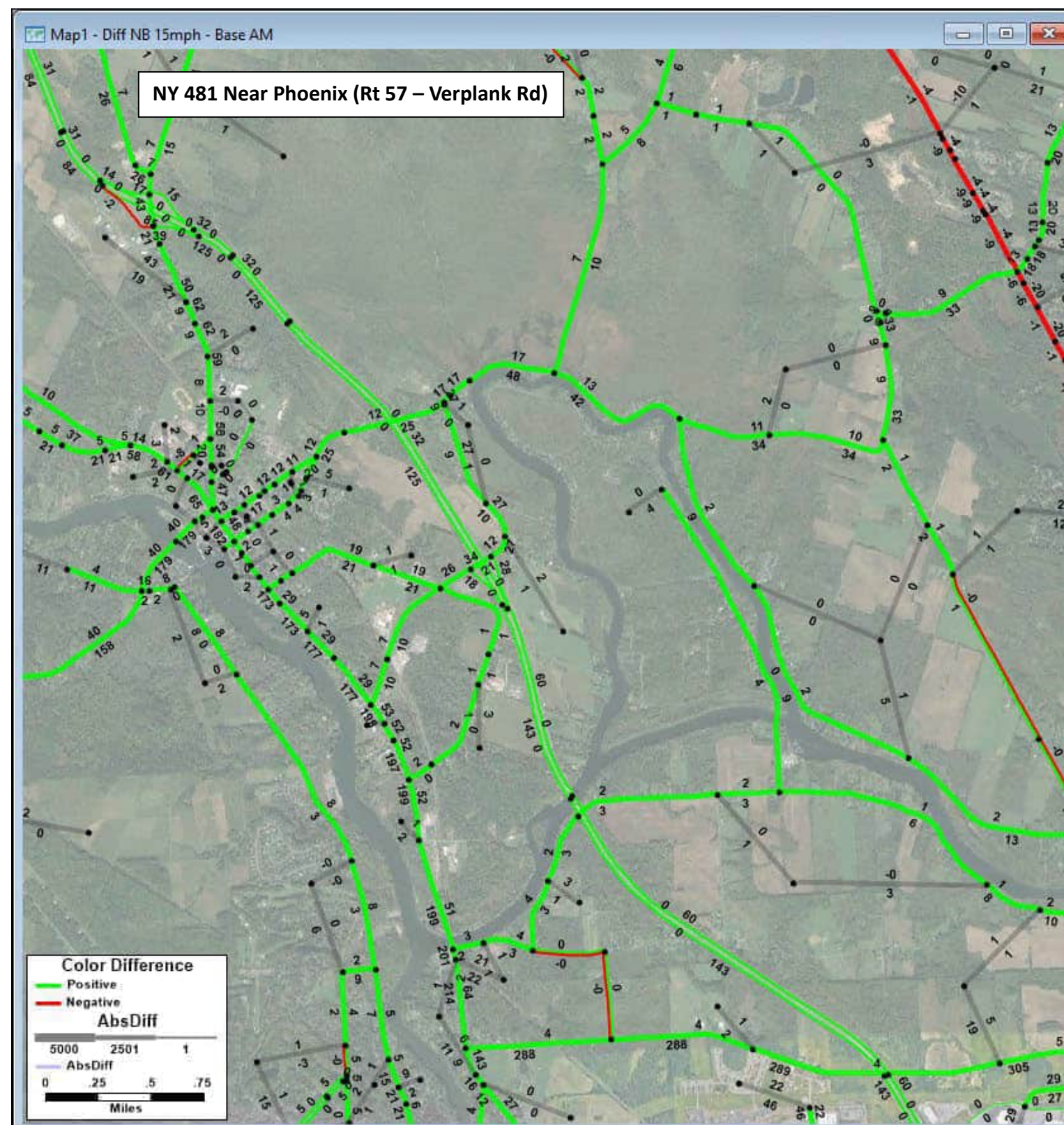




**2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes**  
No Build: All future land use and anticipated transportation projects but no Scenario C network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

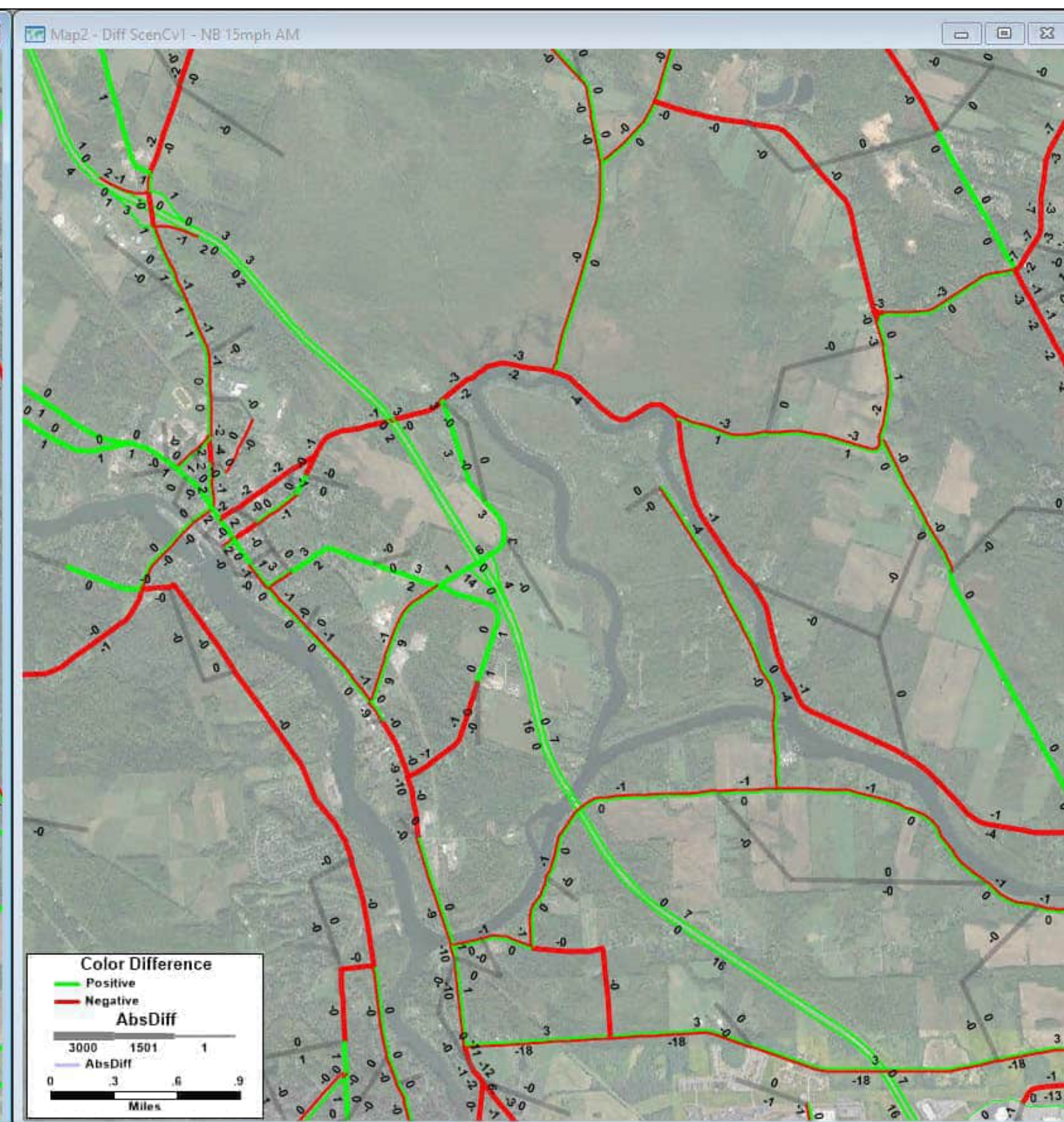
**2040 Scenario C v1 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes**  
Build: All future land use and anticipated transportation projects with Scenario C network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)





2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes

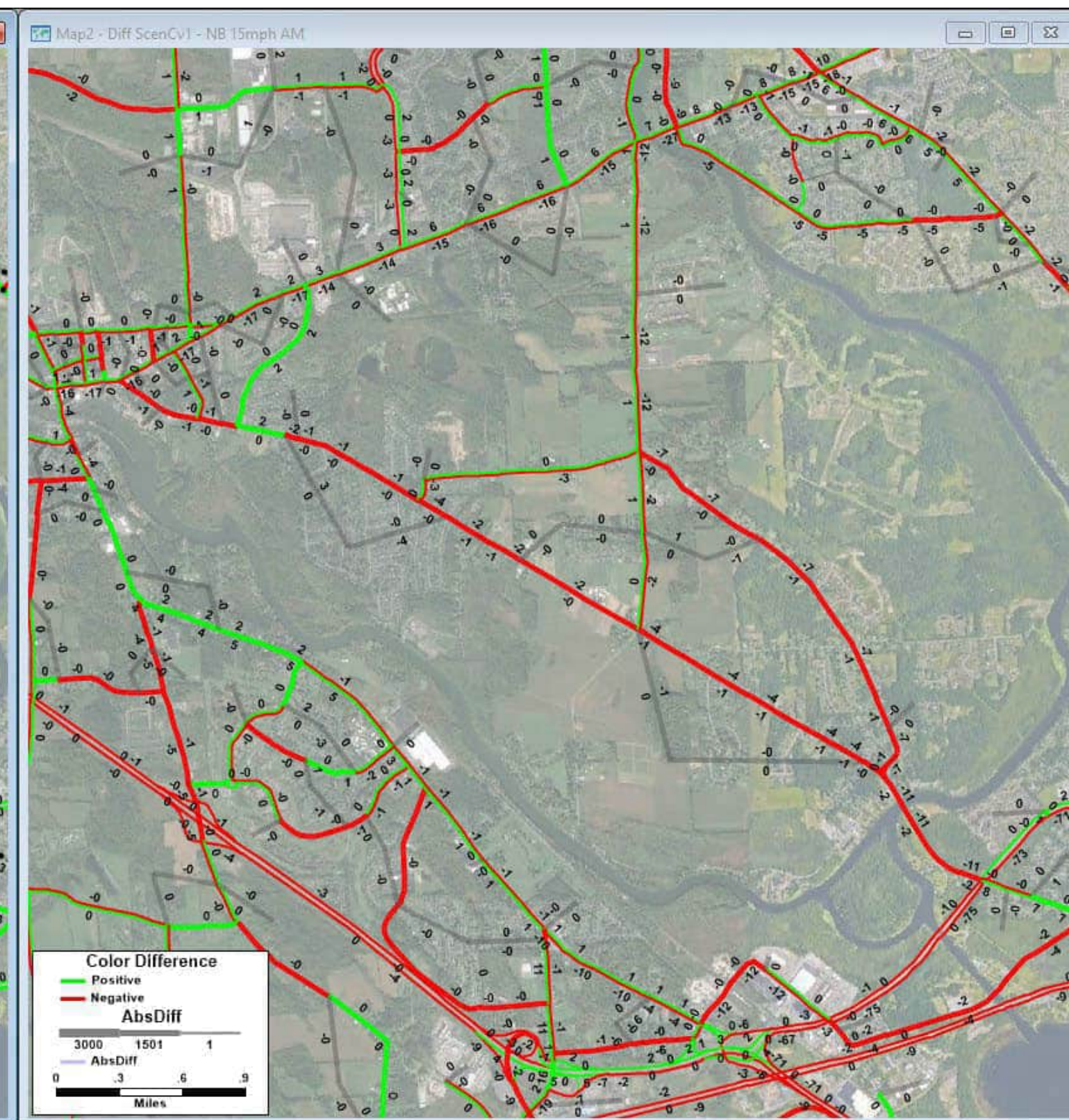
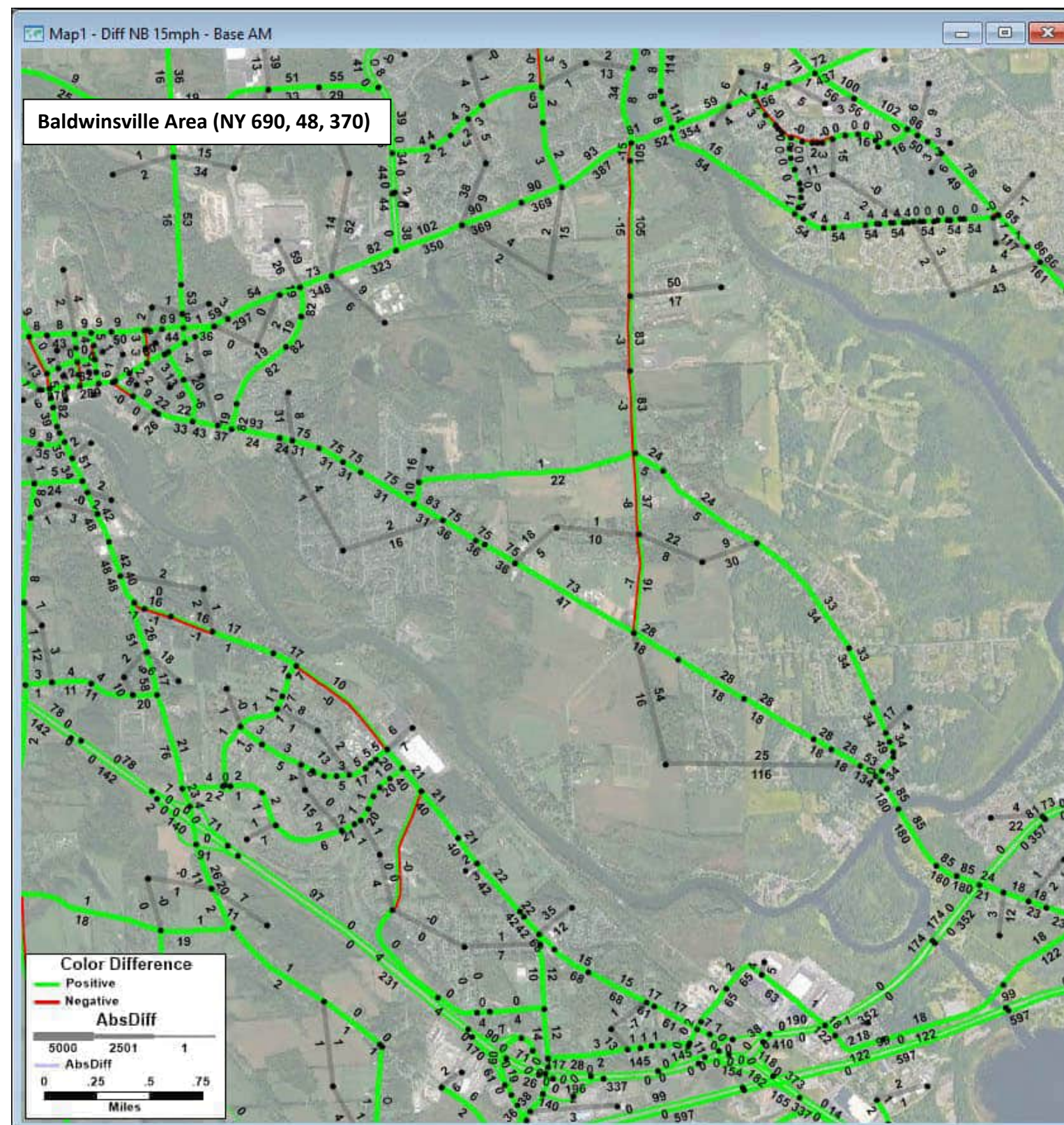
No Build: All future land use and anticipated transportation projects but no Scenario C network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



2040 Scenario C v1 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes

Build: All future land use and anticipated transportation projects with Scenario C network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)





**2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes**

No Build: All future land use and anticipated transportation projects but no Scenario C network changes

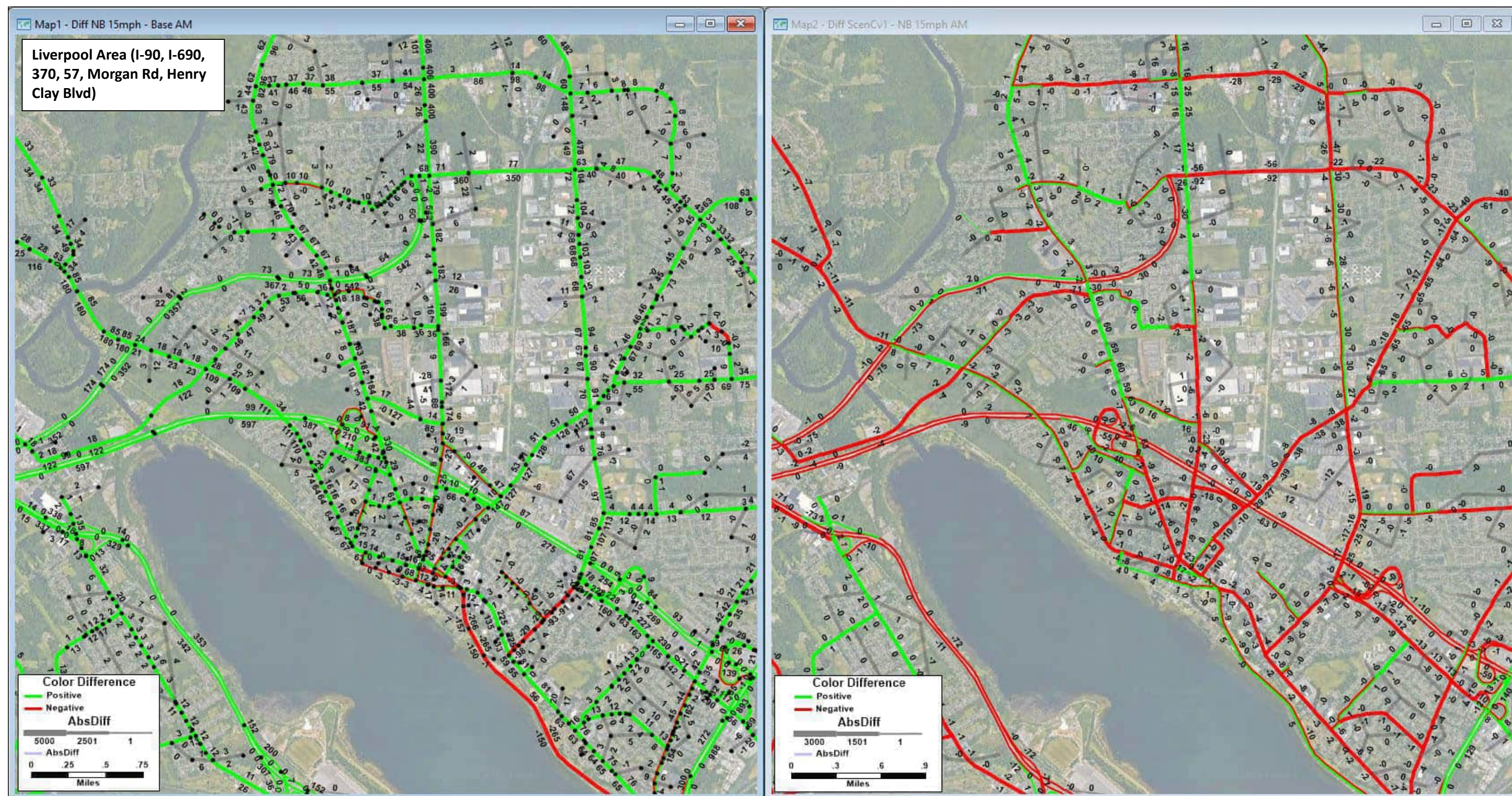
Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

**2040 Scenario C v1 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes**

Build: All future land use and anticipated transportation projects with Scenario C network changes

Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

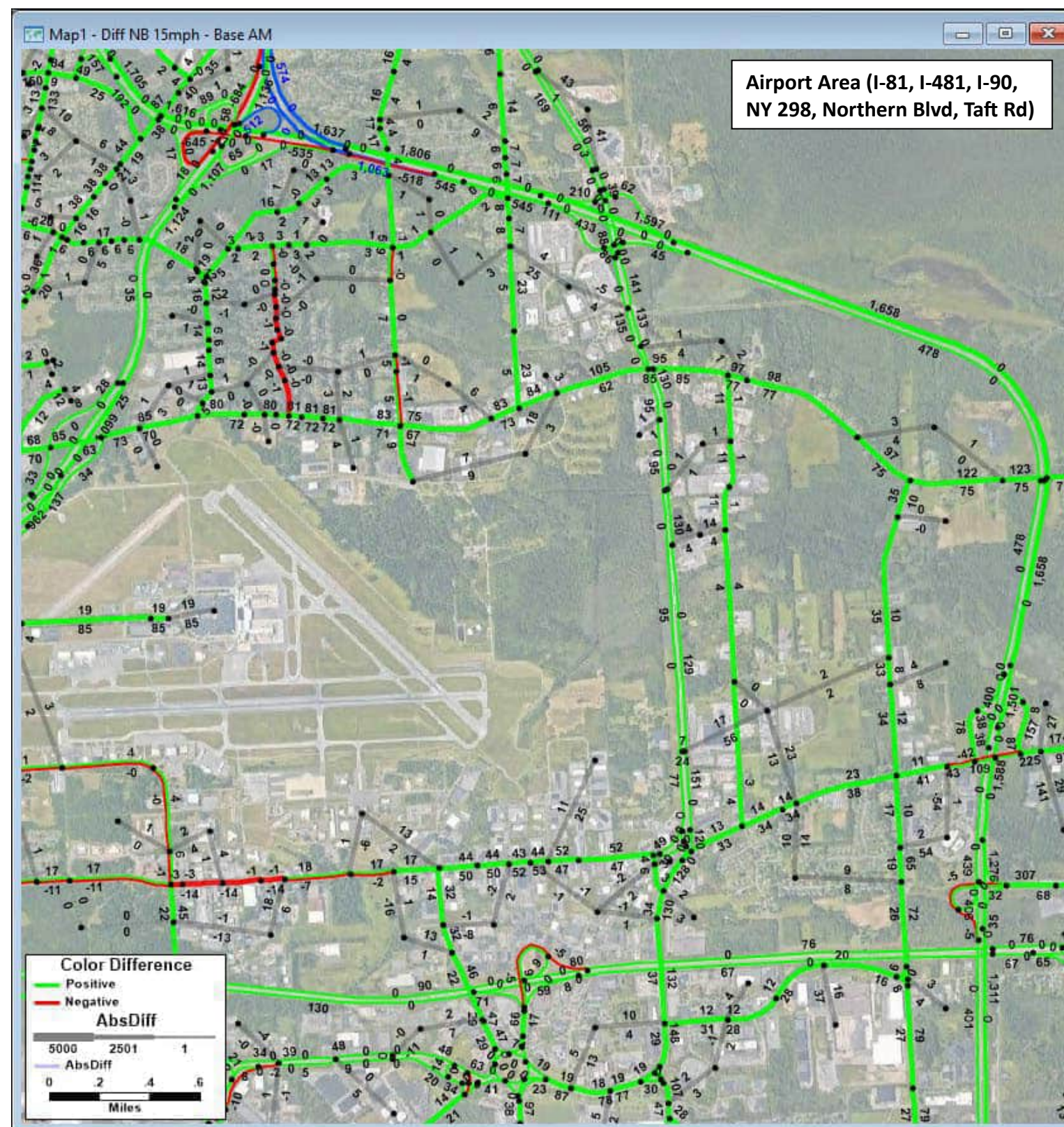




**2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes**  
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**2040 Scenario C v1 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes**  
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 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

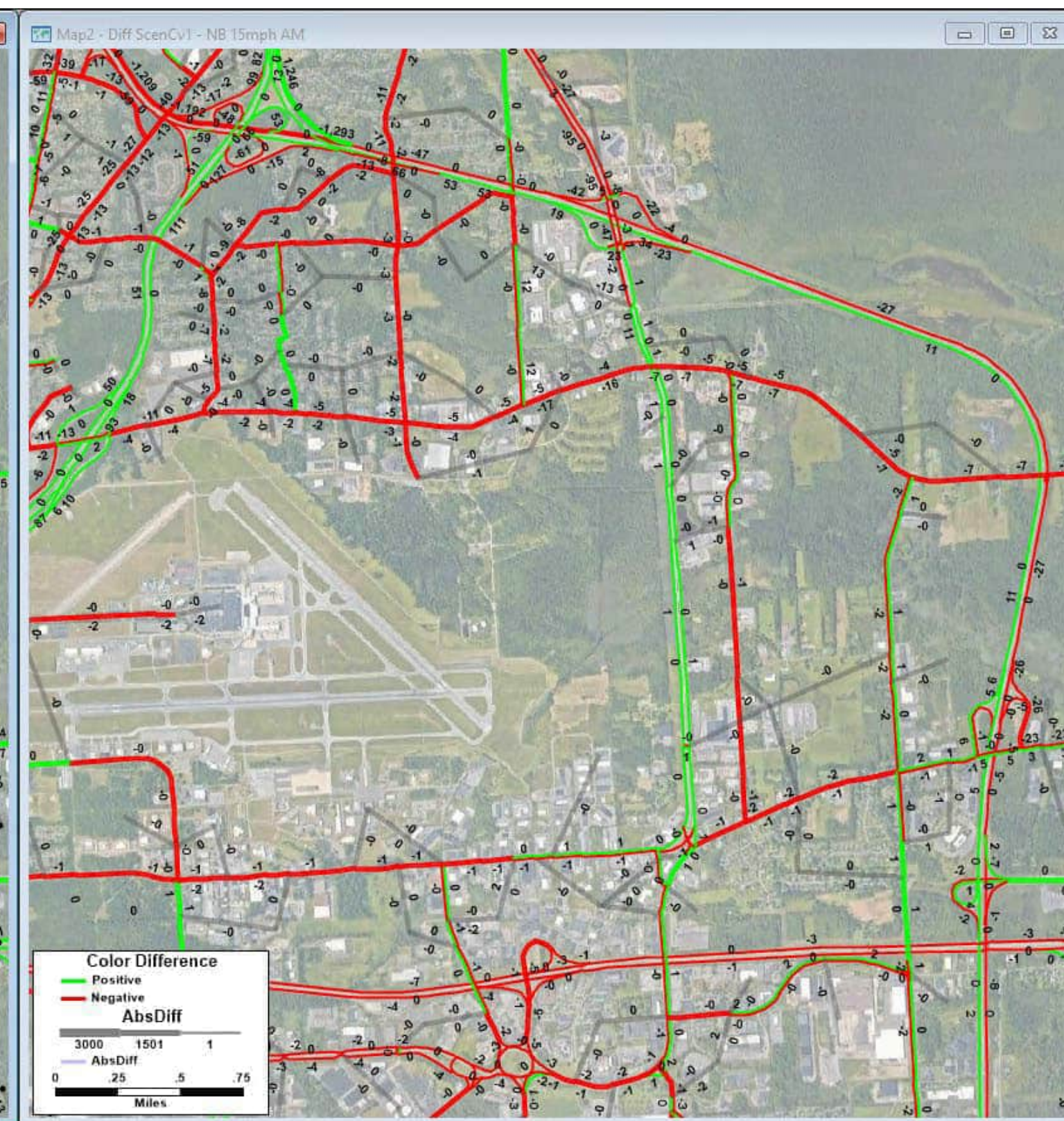




**2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes**

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Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



**2040 Scenario C v1 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes**

Build: All future land use and anticipated transportation projects with Scenario C network changes

Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



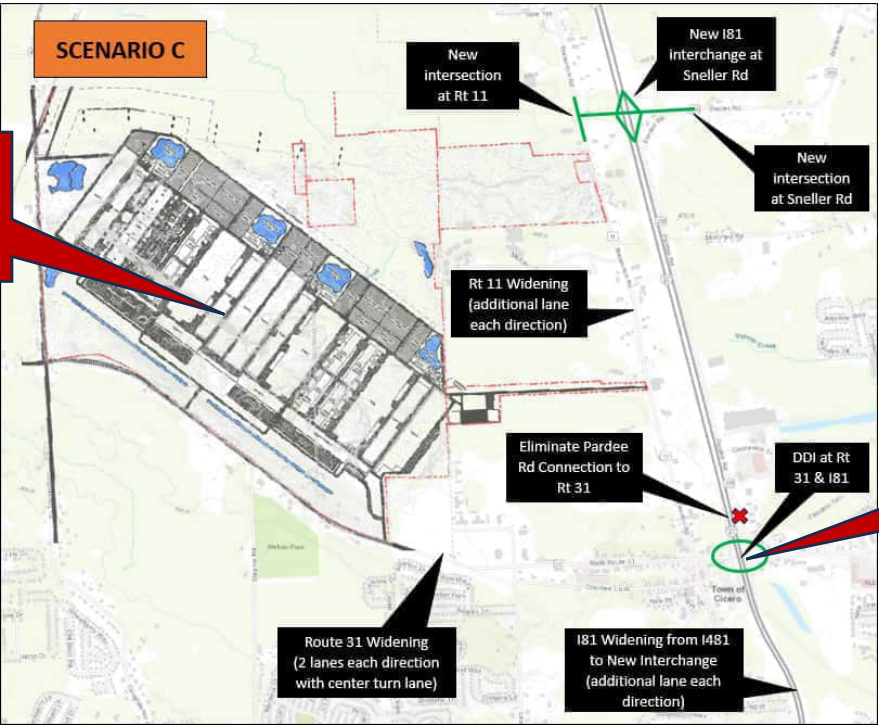
SMTC Travel Demand Model Results: **Scenario C v1** (New I81 Interchange & SPUI @ Rt31 & I81) – **PM PEAK HOUR CHANGE IN VOLUMES**

The graphic to the right shows the general assumptions for **Scenario C v1** →

Notes:

- All 2040 scenarios include projected future land use growth (including Micron)
- **RED** callouts note the revisions made to Scenario C

Equal travel time for  
all Micron TAZ  
centroid connectors



The graphic to the right is an example of what is included in this document →

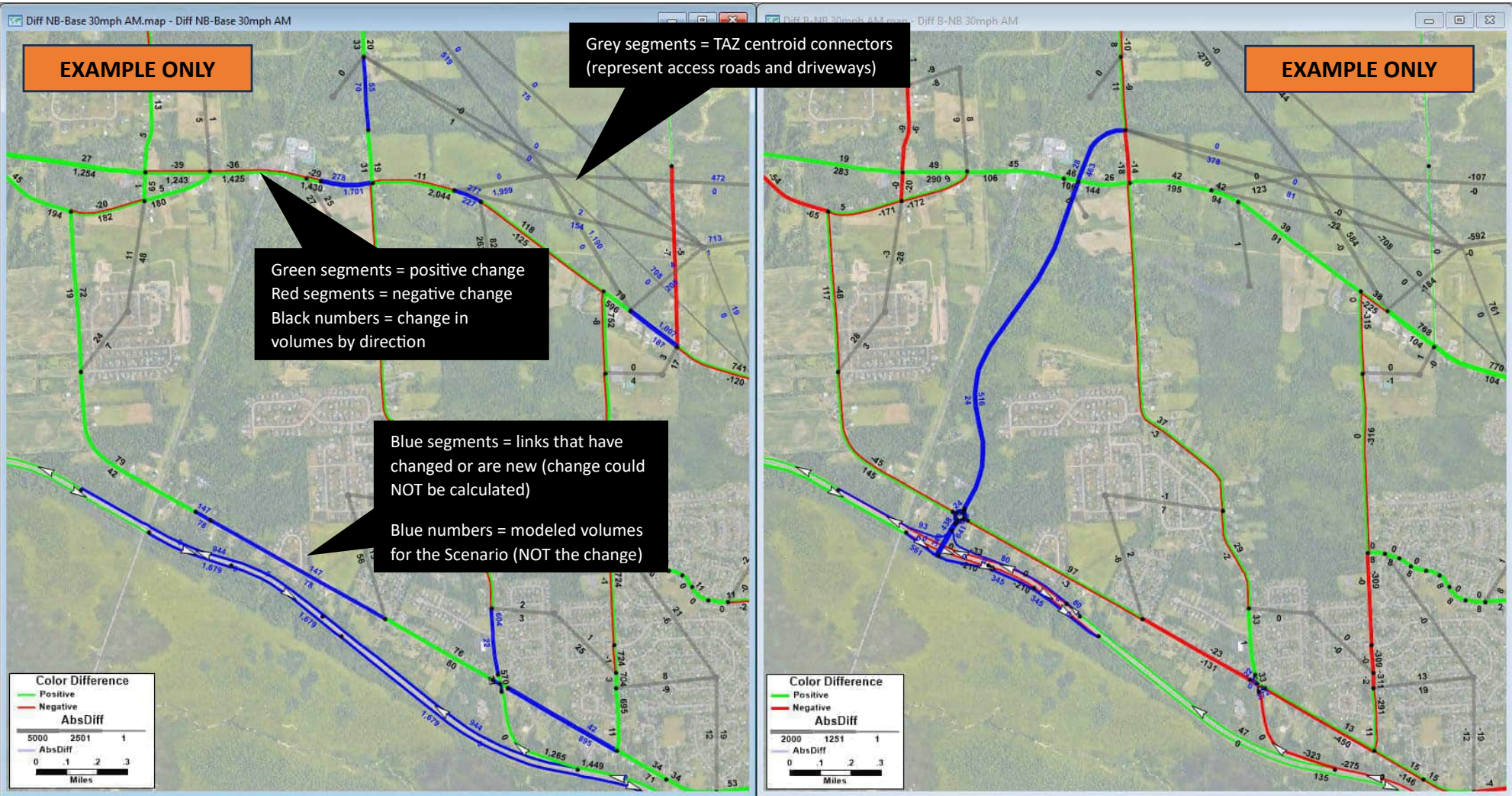
The map on the left displays the change in **PM** volumes between the 2020 existing conditions base model to the 2040 No Build (**2040 NB PM Volumes less 2020 PM volumes**). No Build in this case refers to no network improvements, the build future land use conditions are included (including Micron).

The map on the right displays the change in **PM** volumes between the 2040 No Build to the 2040 Scenario “X” Build (**2040 Scenario “X” Build PM Volumes less 2040 NB PM volumes**).

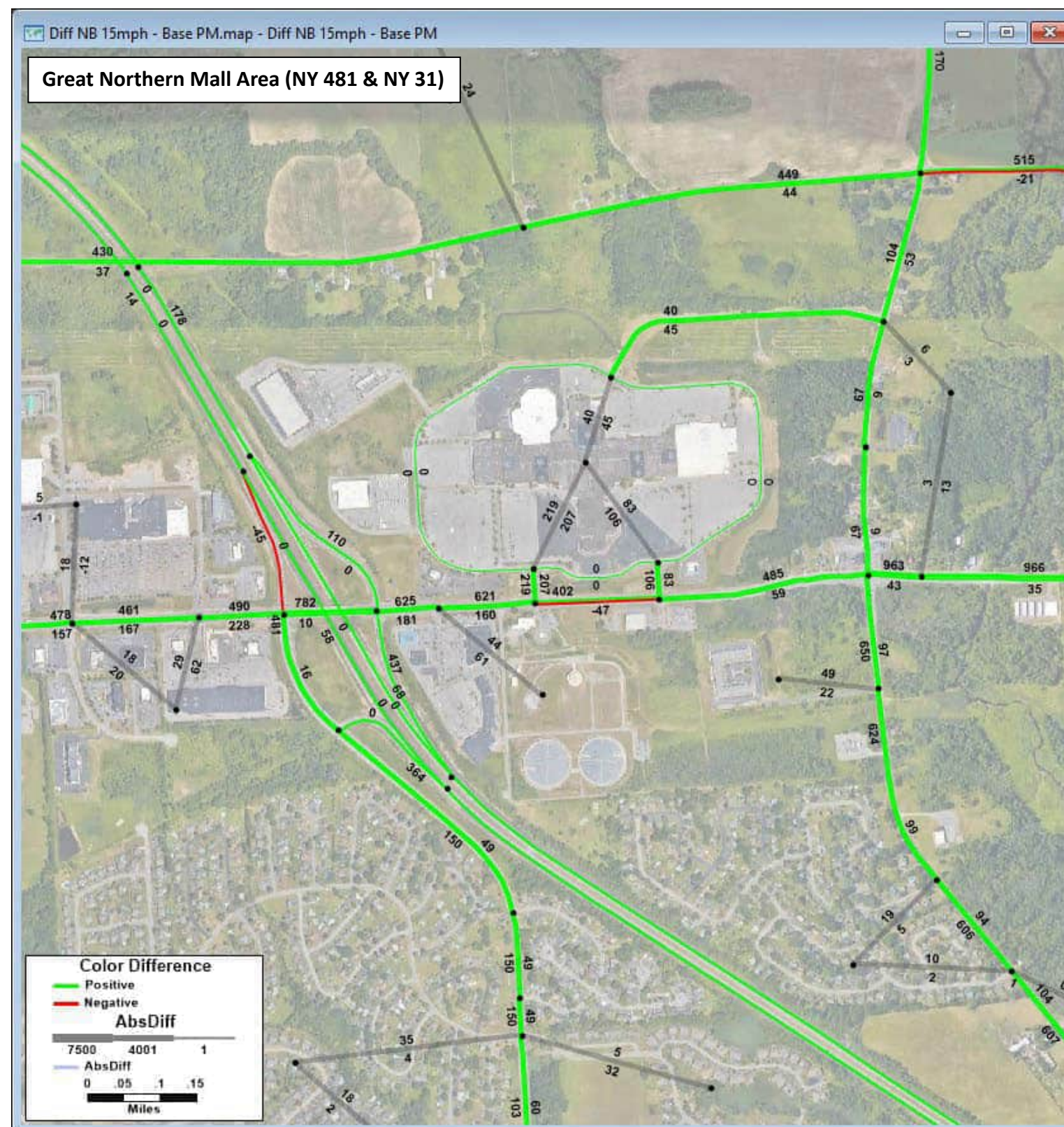
MAP NOTES:

- **Green** segments = positive change between identified scenarios
- **Red** segments = negative change between identified scenarios
- **Black numbers** = change in volumes by direction
- **Blue** segments = links that have changed or are new for that scenario therefore a change can **NOT** be calculated
- **Blue numbers** = modeled volume by direction on that segment for that scenario (change could NOT be calculated for that link)
- **Gray** segments = TAZ centroid connectors (general representation of access roads and driveways)

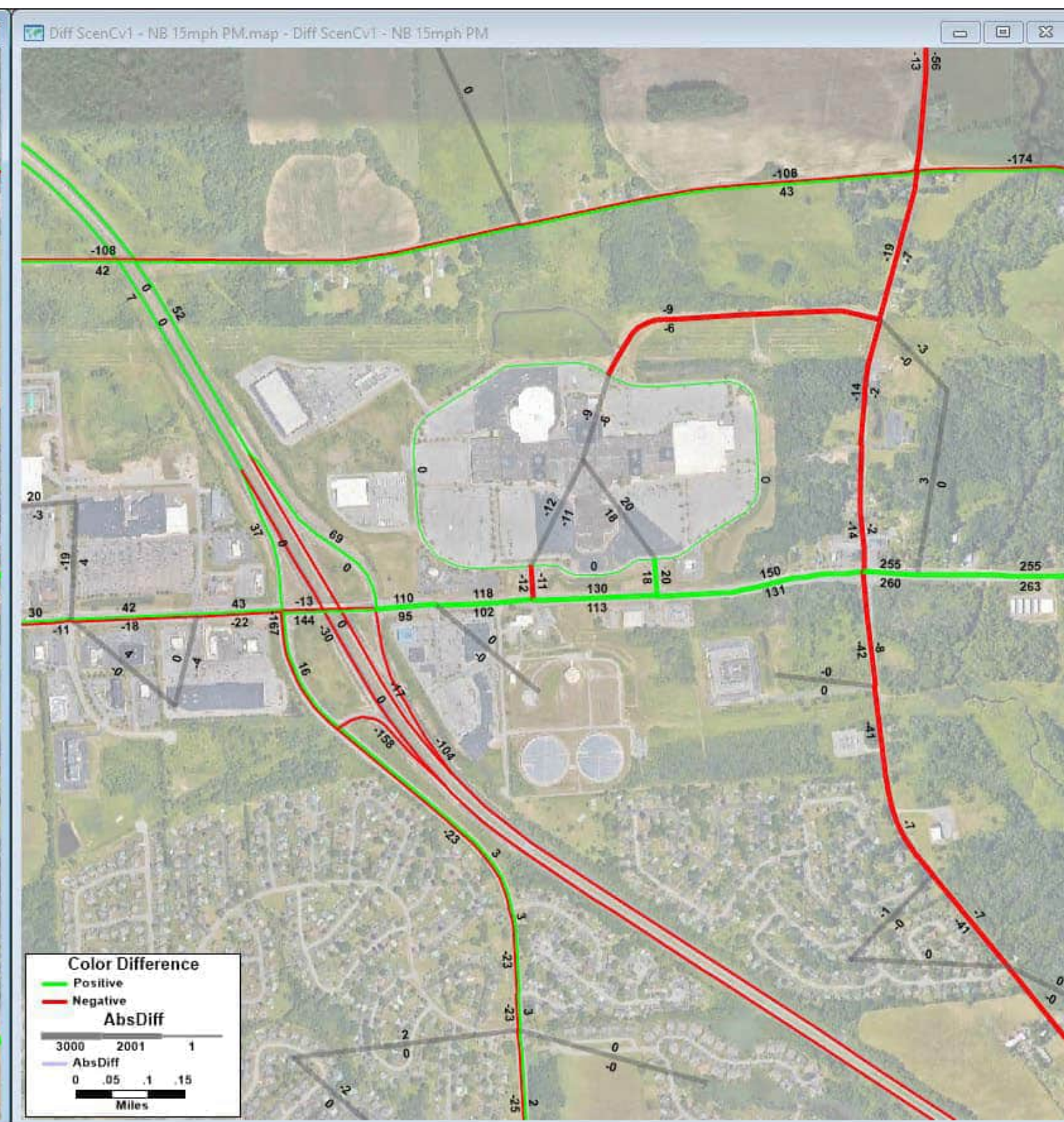
To get total future volume on a segment add up the numbers from both maps and then add that to existing traffic counts.





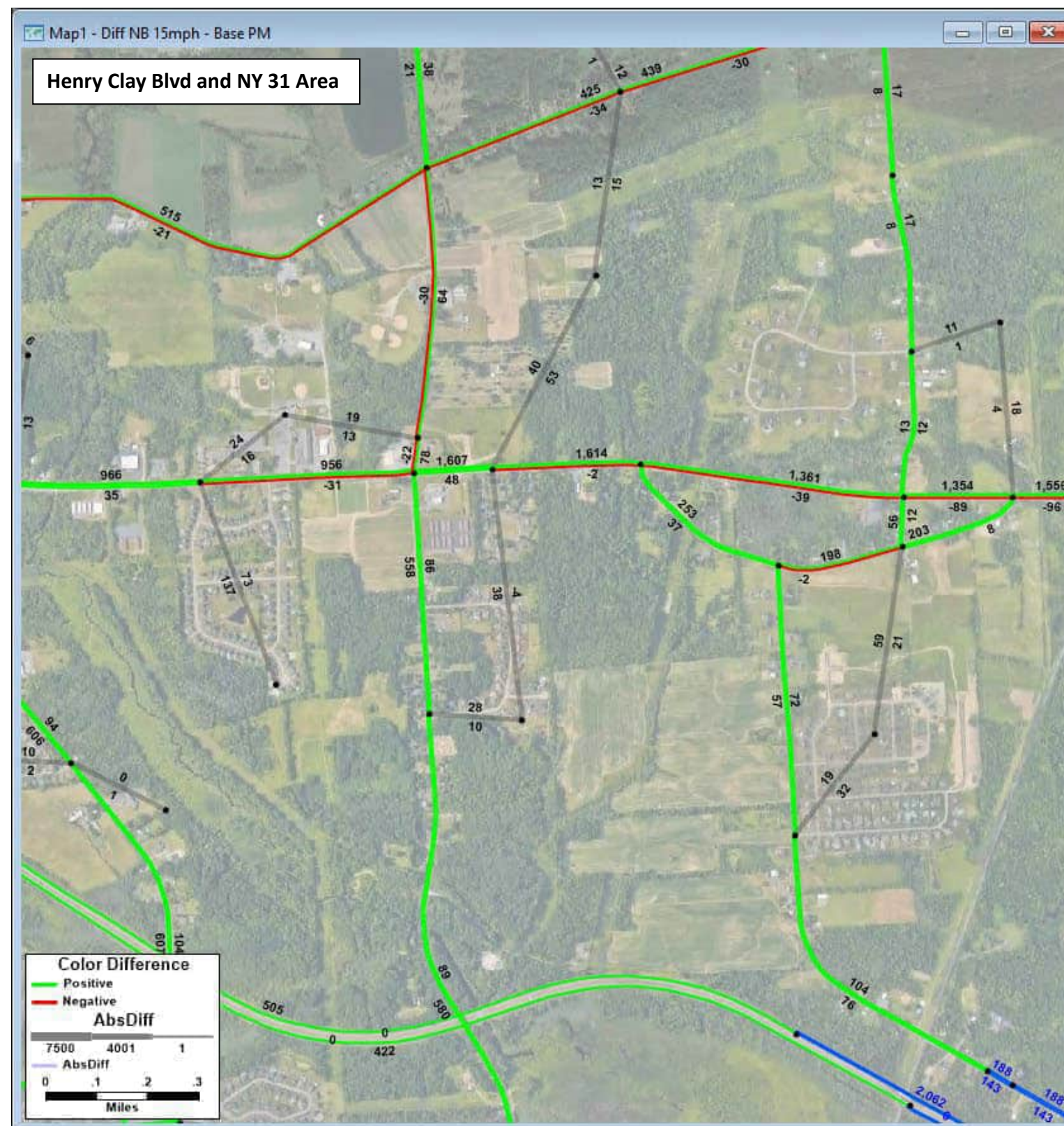


**2040 No Build PM Volumes - 2020 Existing Conditions PM Volumes = Change in PM Volumes**  
No Build: All future land use and anticipated transportation projects but no Scenario C network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

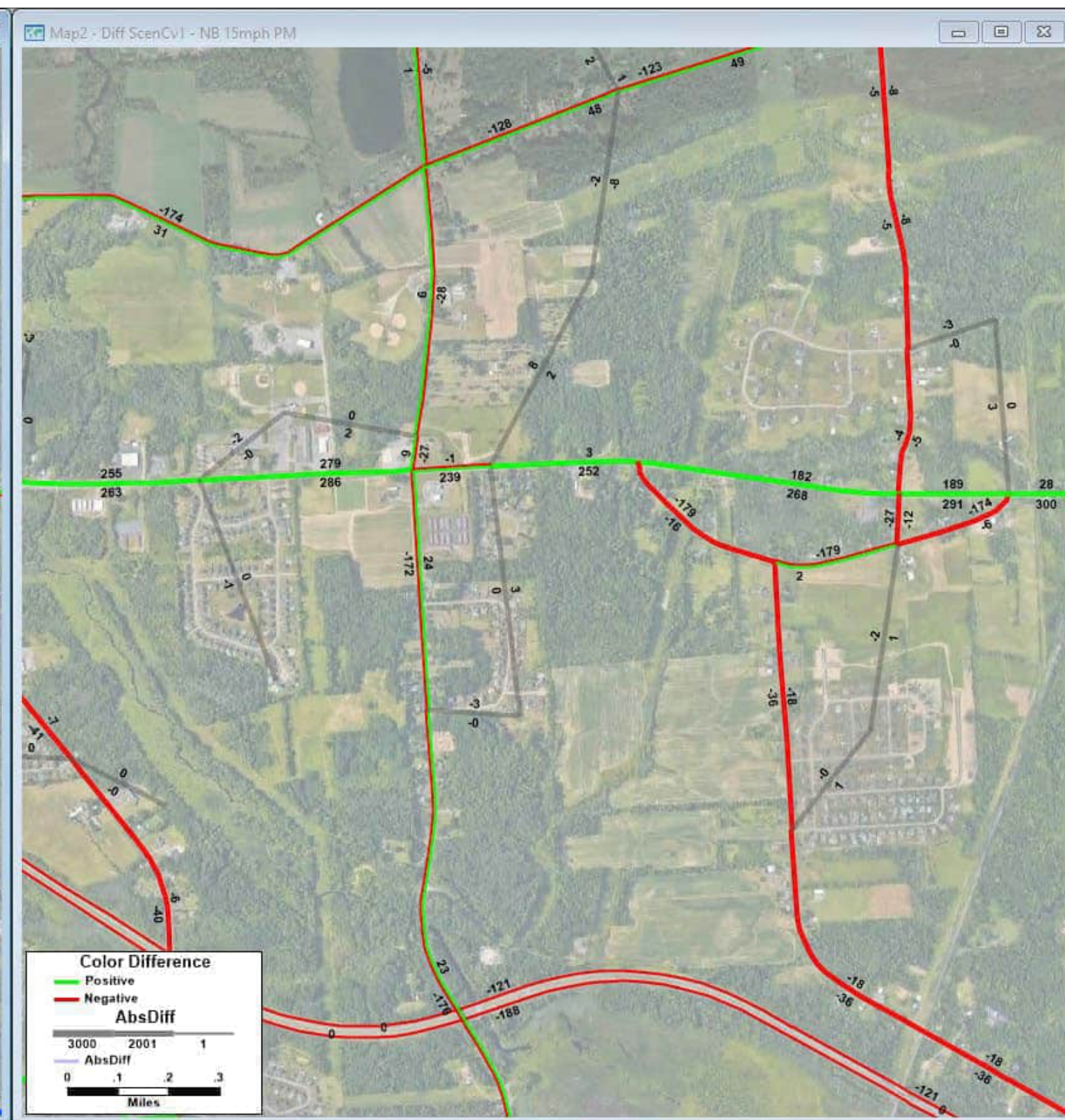


**2040 Scenario C v1 PM Volumes - 2040 No Build PM Volumes = Change in PM Volumes**  
Build: All future land use and anticipated transportation projects with Scenario C network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



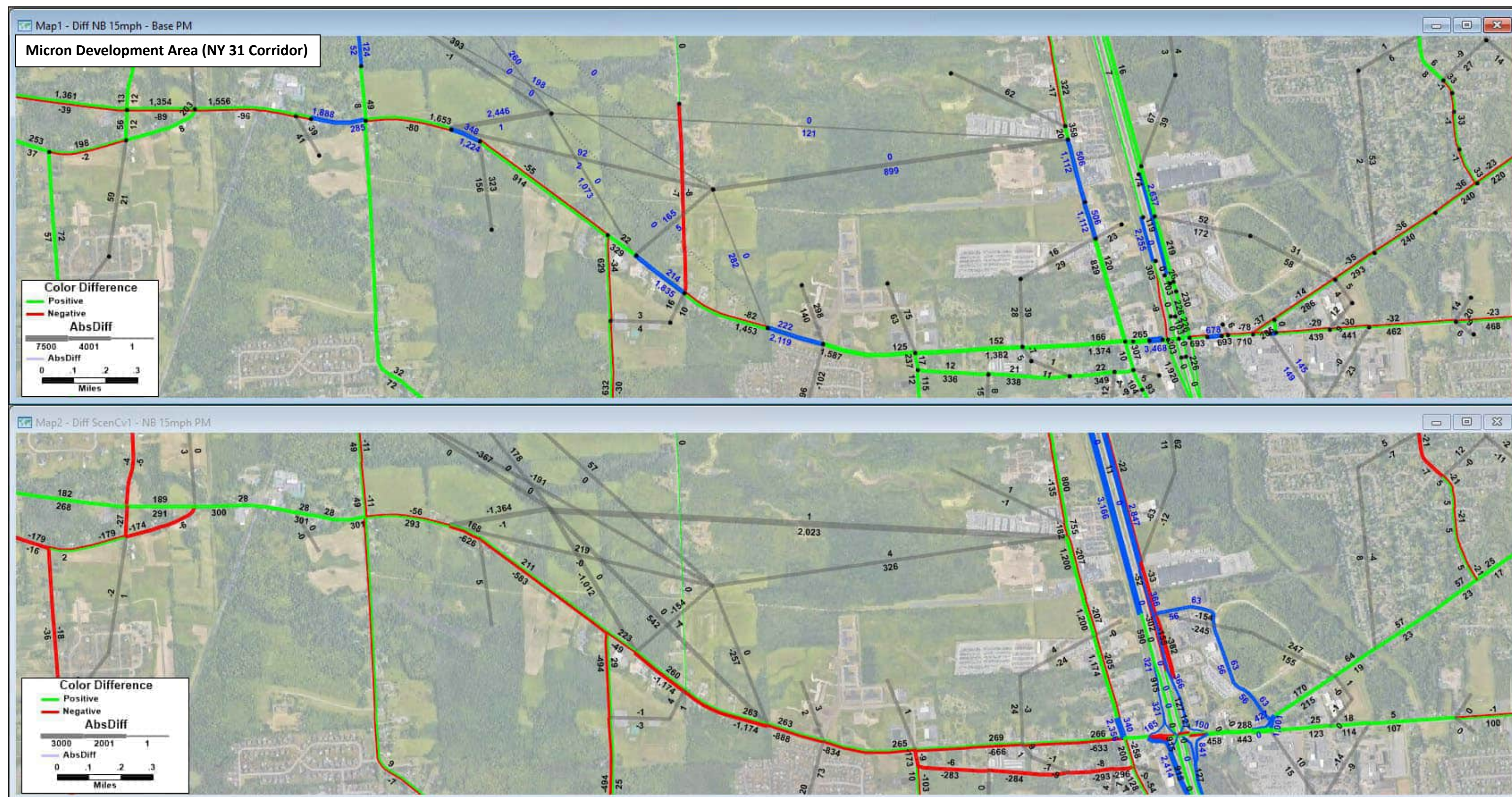


**2040 No Build PM Volumes - 2020 Existing Conditions PM Volumes = Change in PM Volumes**  
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**2040 Scenario C v1 PM Volumes - 2040 No Build PM Volumes = Change in PM Volumes**  
Build: All future land use and anticipated transportation projects with Scenario C network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

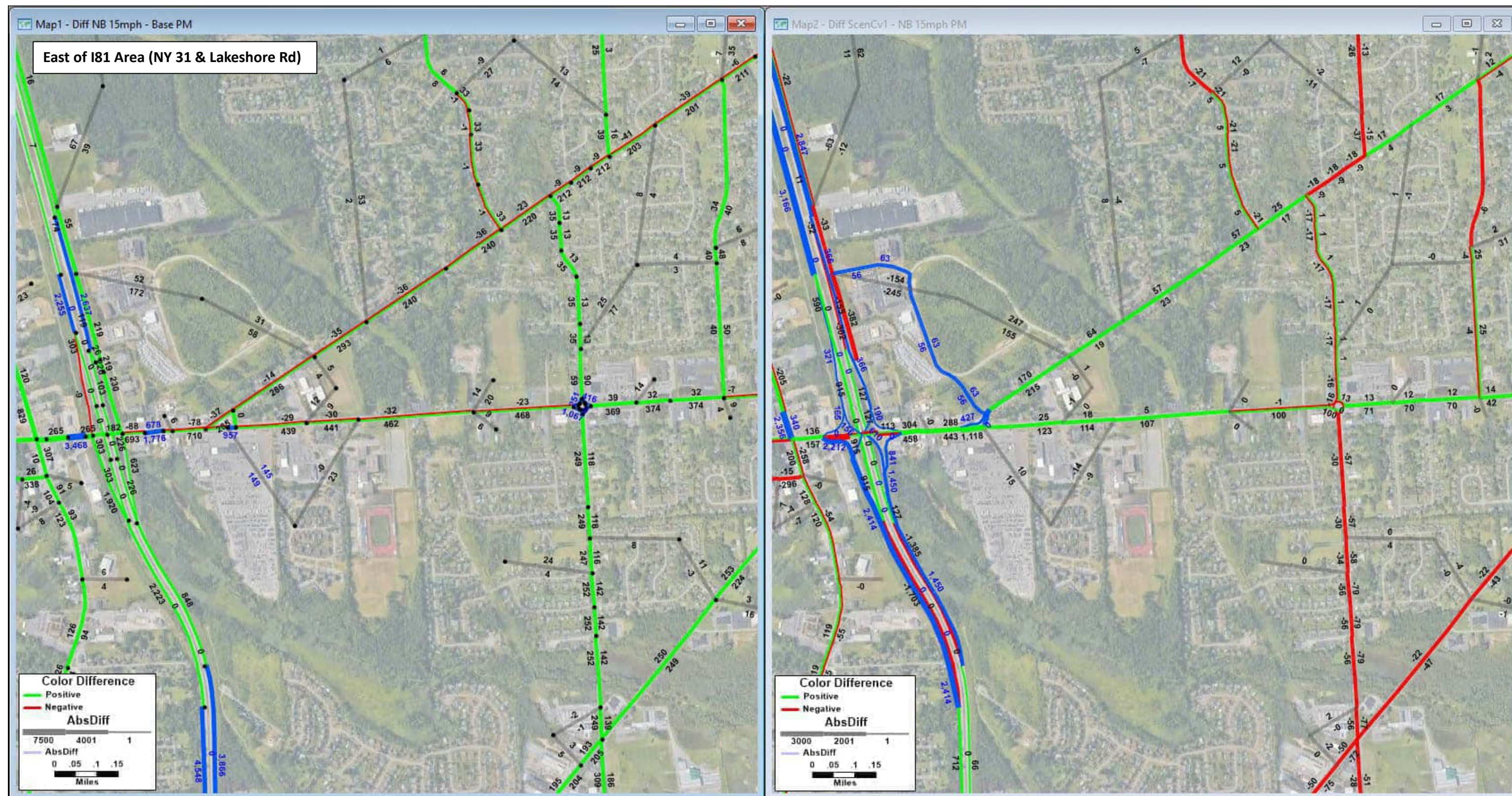




**(TOP MAP) 2040 No Build PM Volumes - 2020 Existing Conditions PM Volumes = Change in PM Volumes**  
**No Build:** All future land use and anticipated transportation projects but no Scenario C network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

**(Bottom MAP) 2040 Scenario C v1 PM Volumes - 2040 No Build PM Volumes = Change in PM Volumes**  
**Build:** All future land use and anticipated transportation projects with Scenario C network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

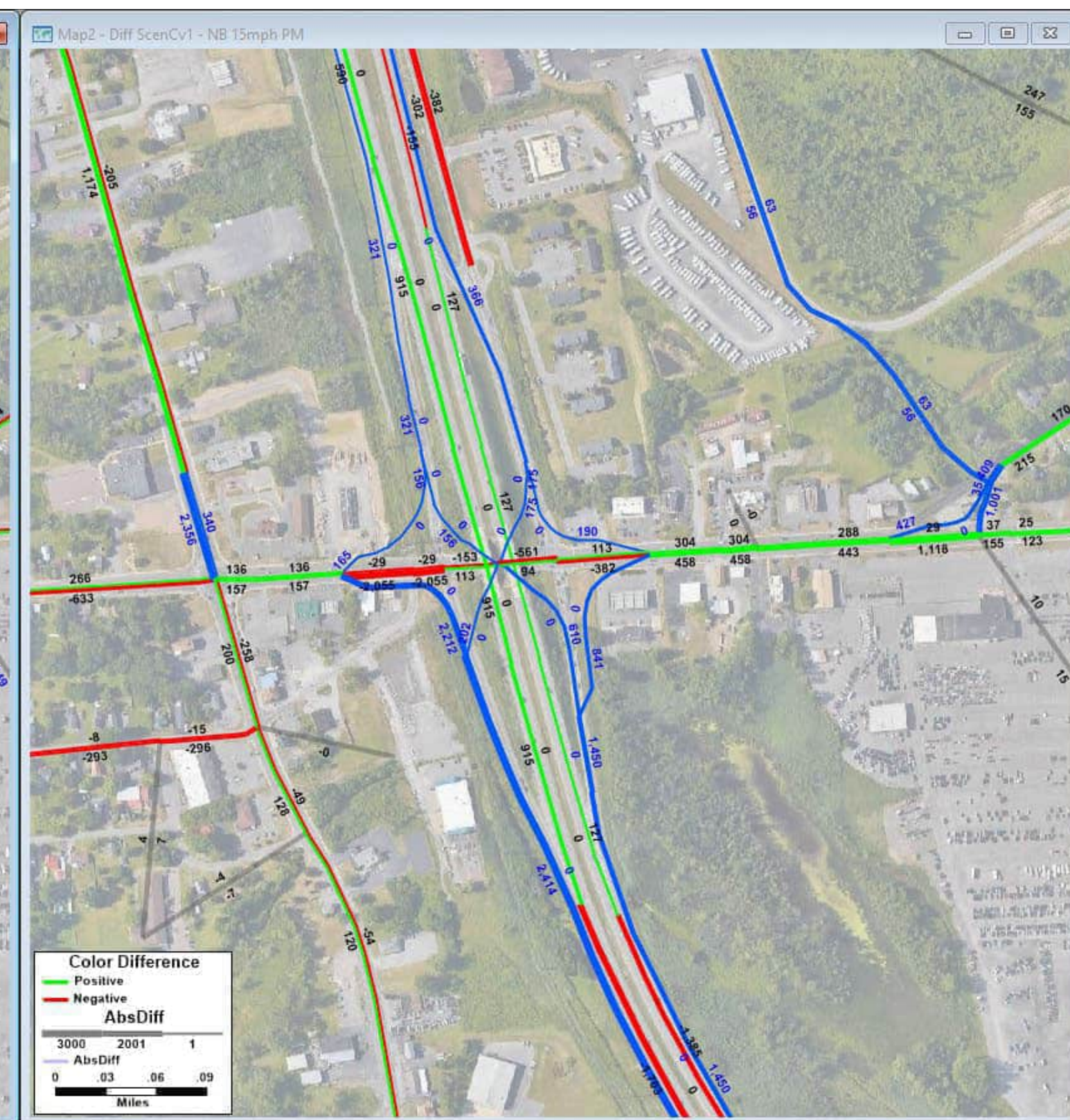
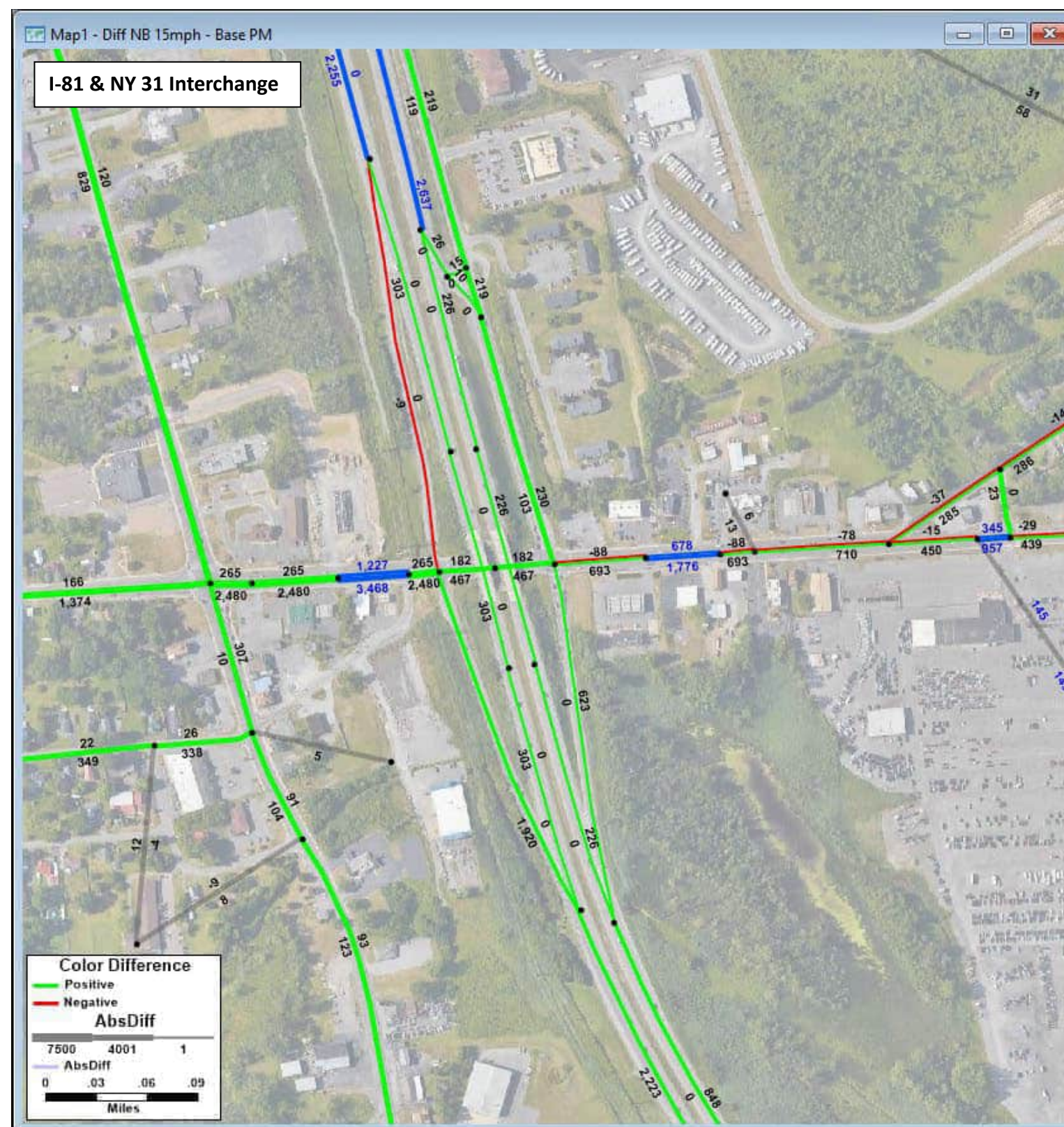




**2040 No Build PM Volumes - 2020 Existing Conditions PM Volumes = Change in PM Volumes**  
No Build: All future land use and anticipated transportation projects but no Scenario C network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

**2040 Scenario C v1 PM Volumes - 2040 No Build PM Volumes = Change in PM Volumes**  
Build: All future land use and anticipated transportation projects with Scenario C network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

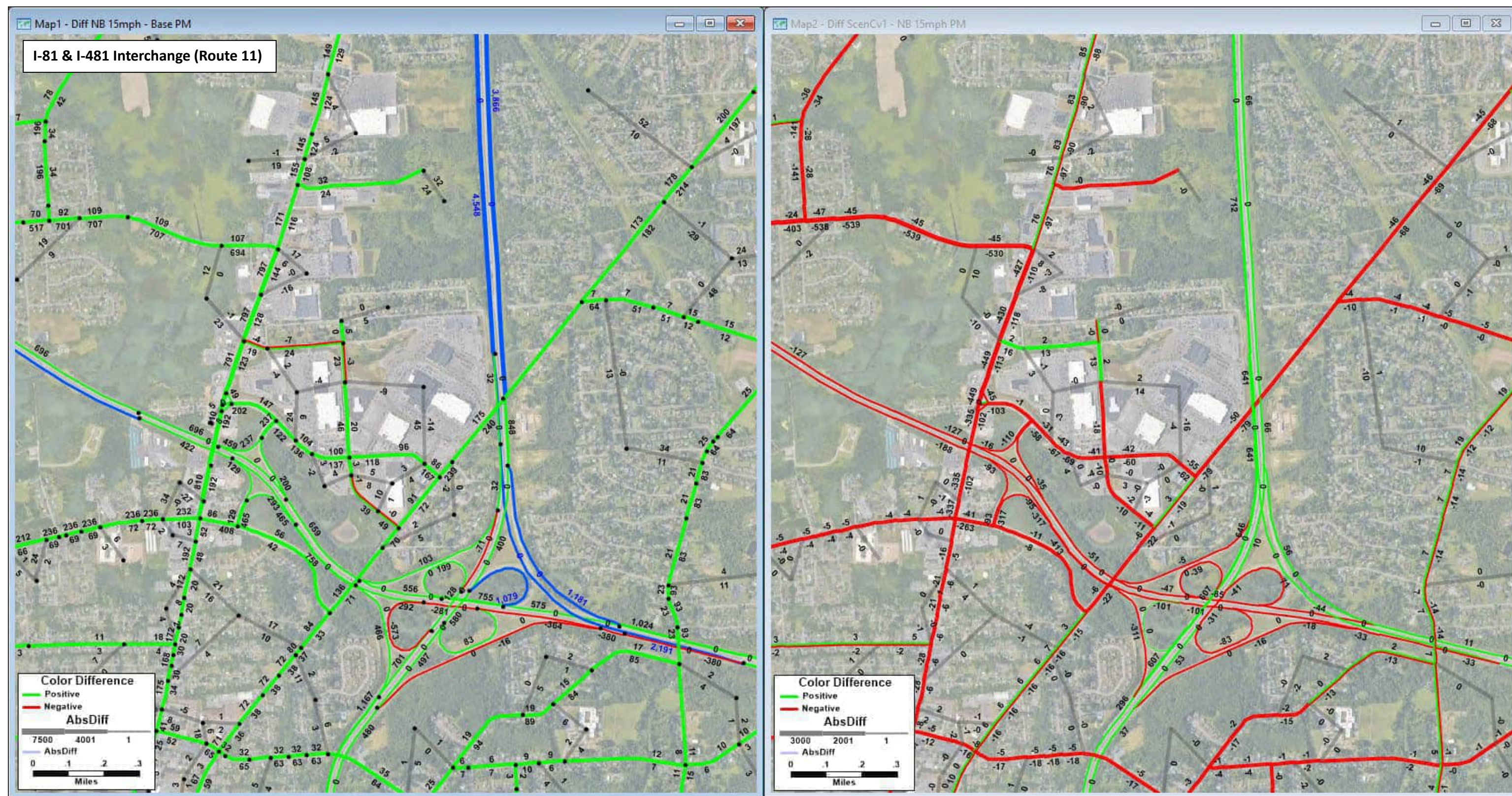




**2040 No Build PM Volumes - 2020 Existing Conditions PM Volumes = Change in PM Volumes**  
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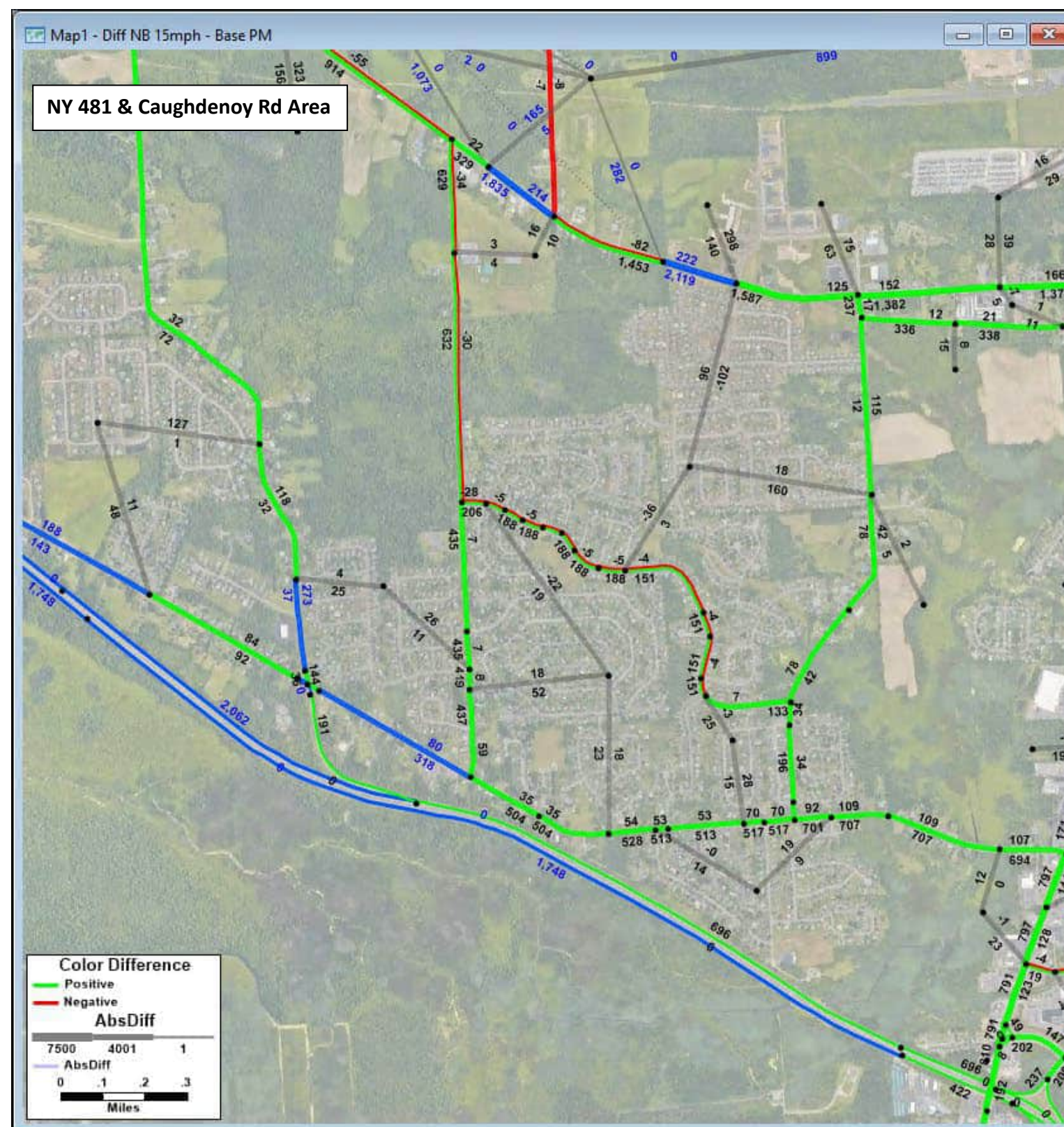




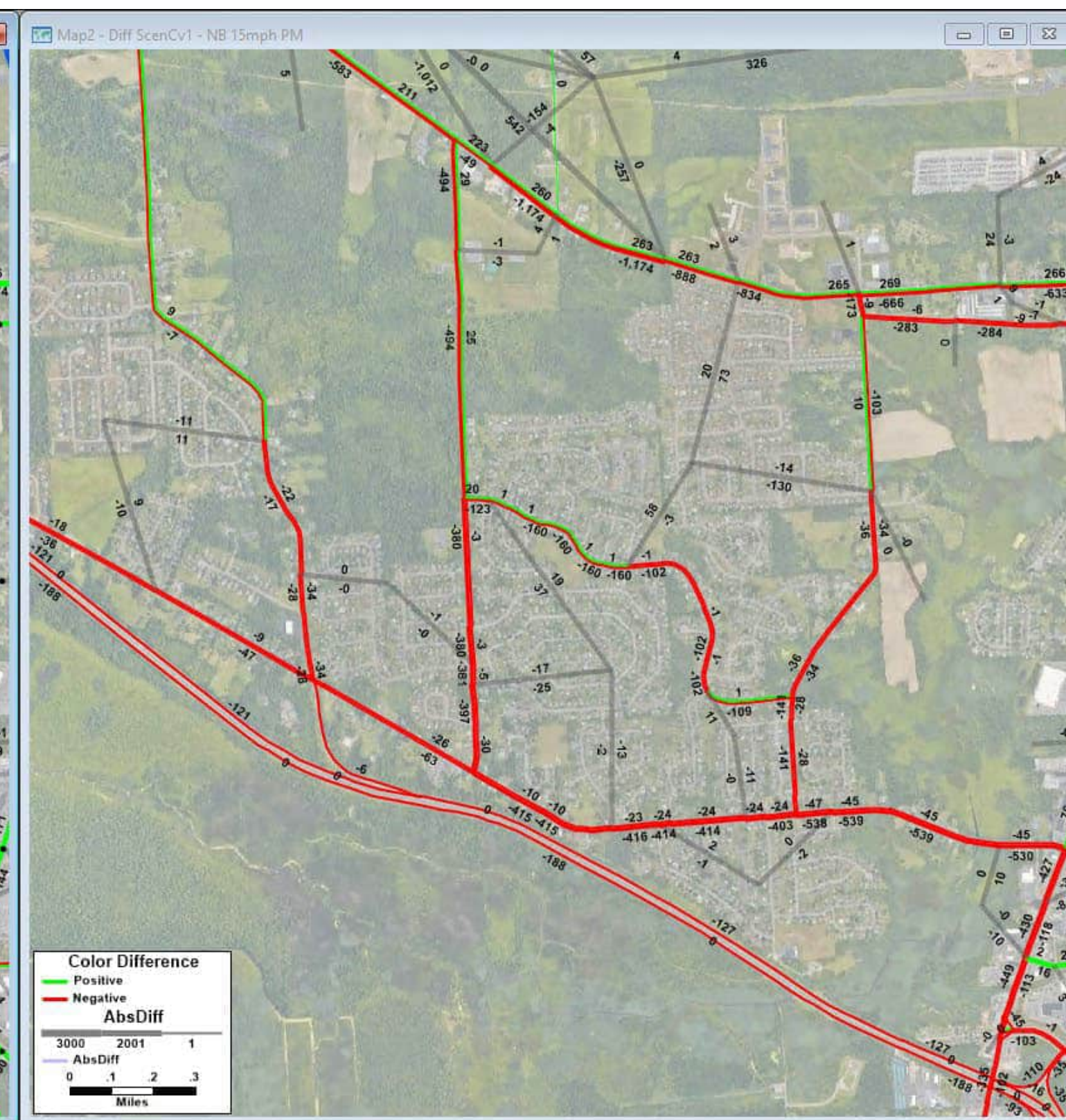
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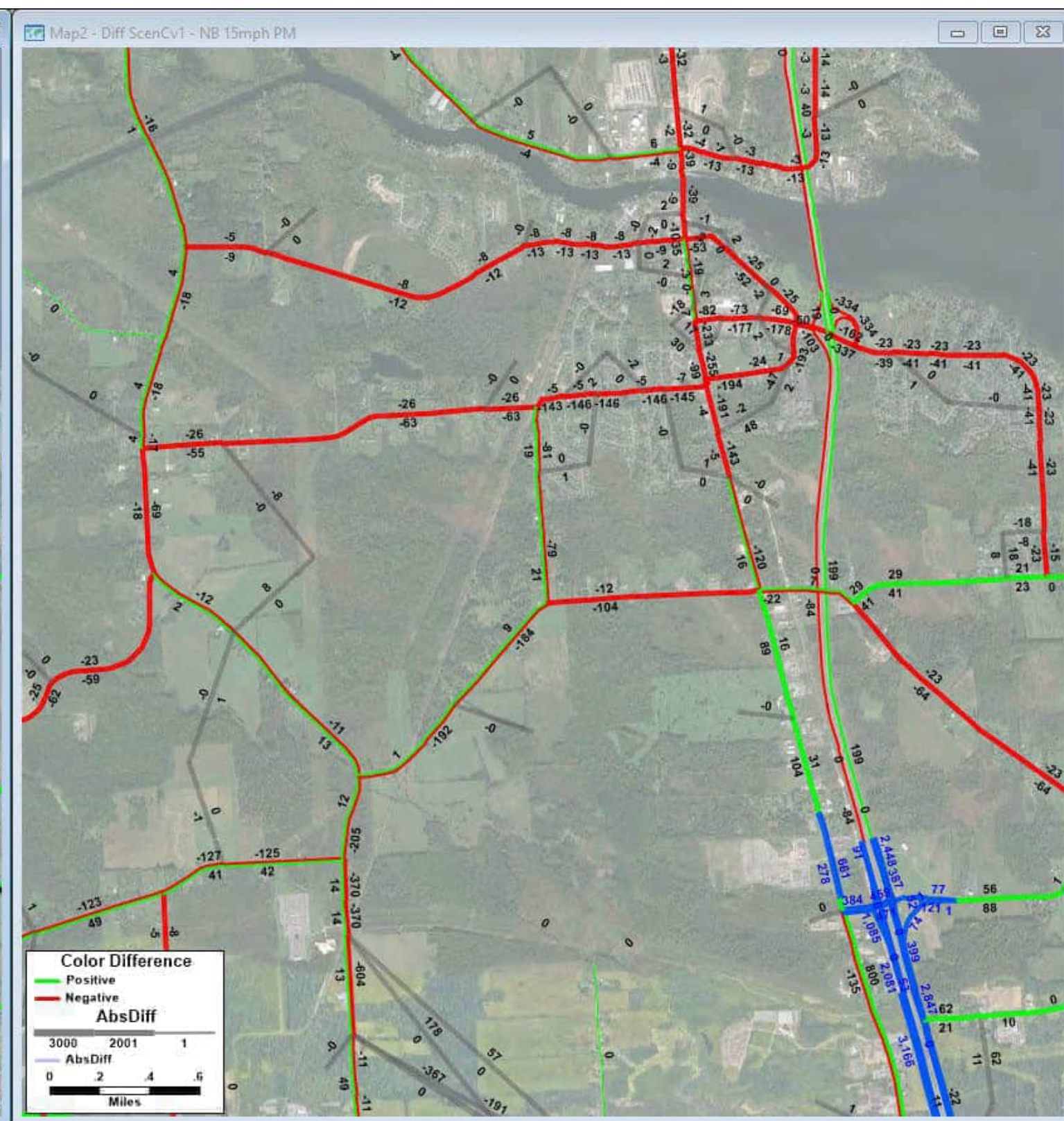
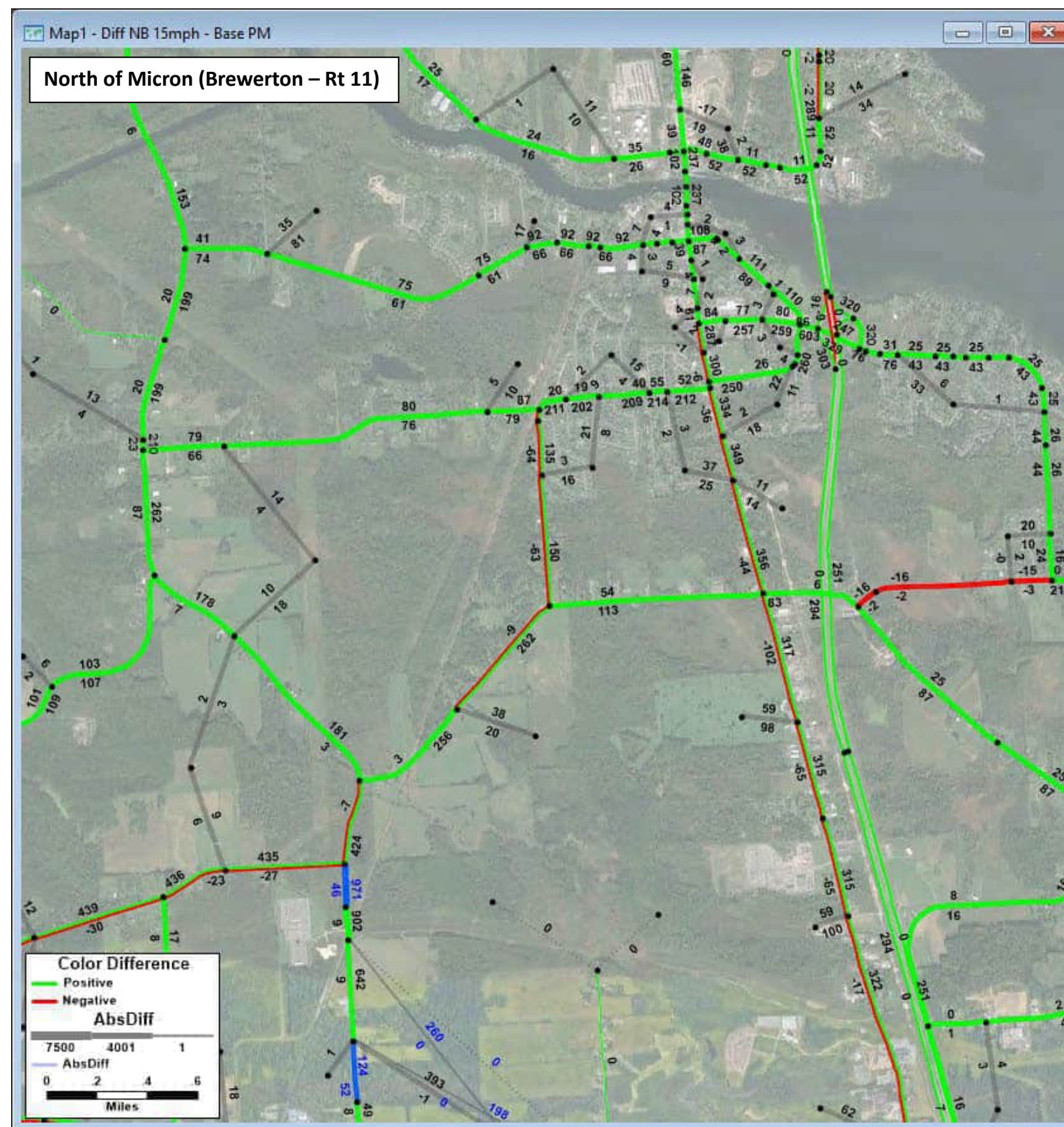


**2040 No Build PM Volumes - 2020 Existing Conditions PM Volumes = Change in PM Volumes**  
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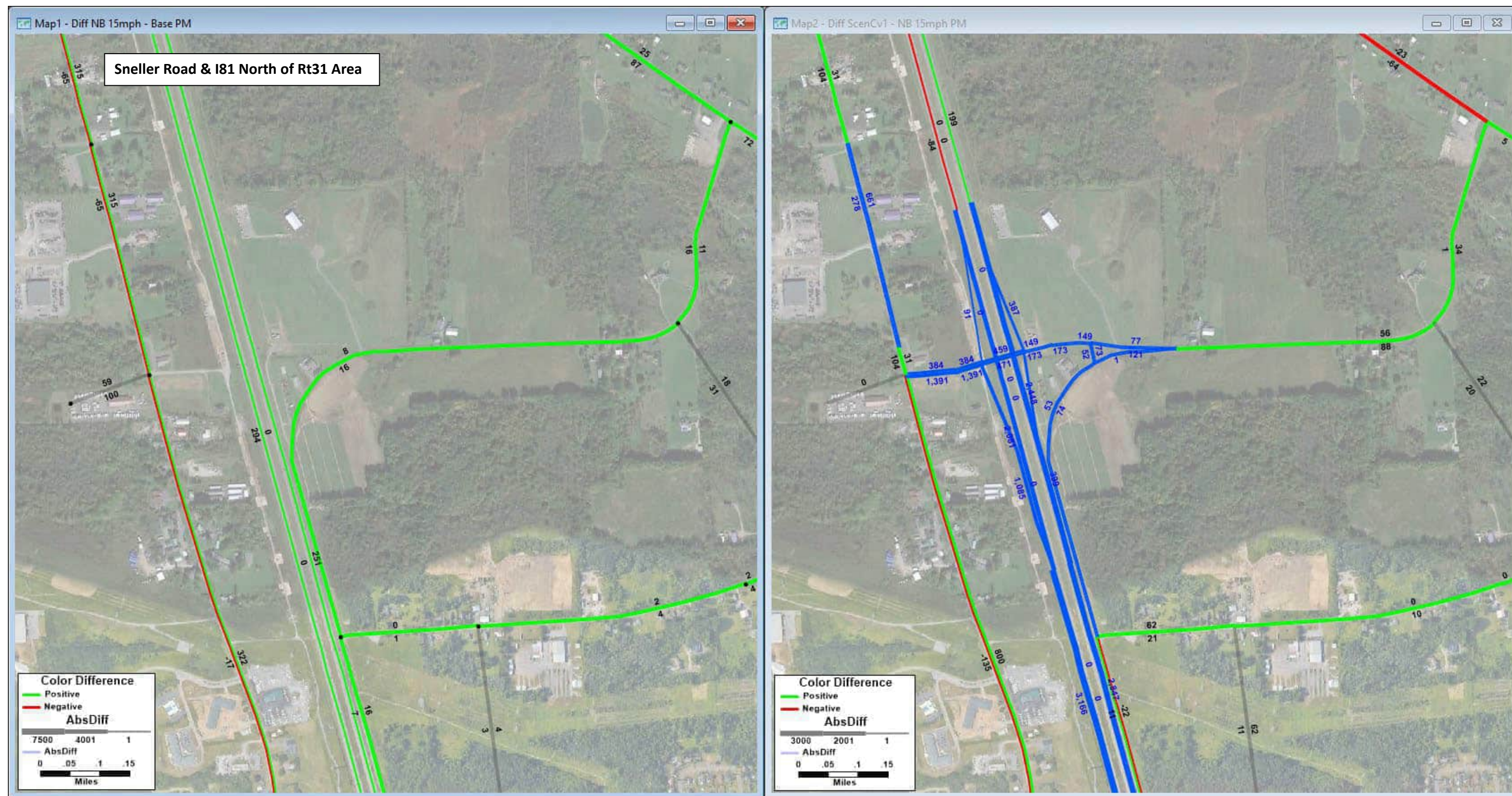




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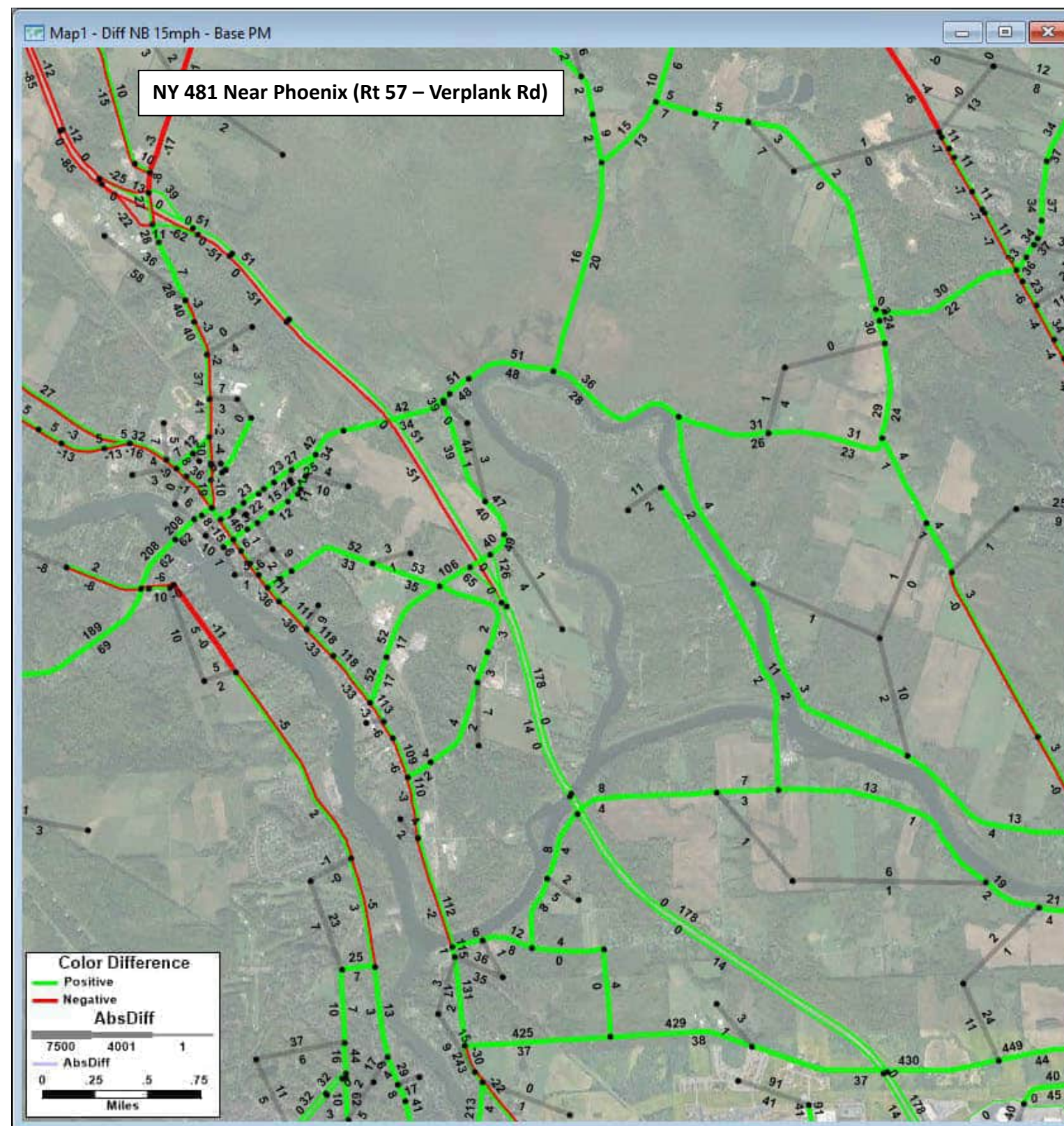




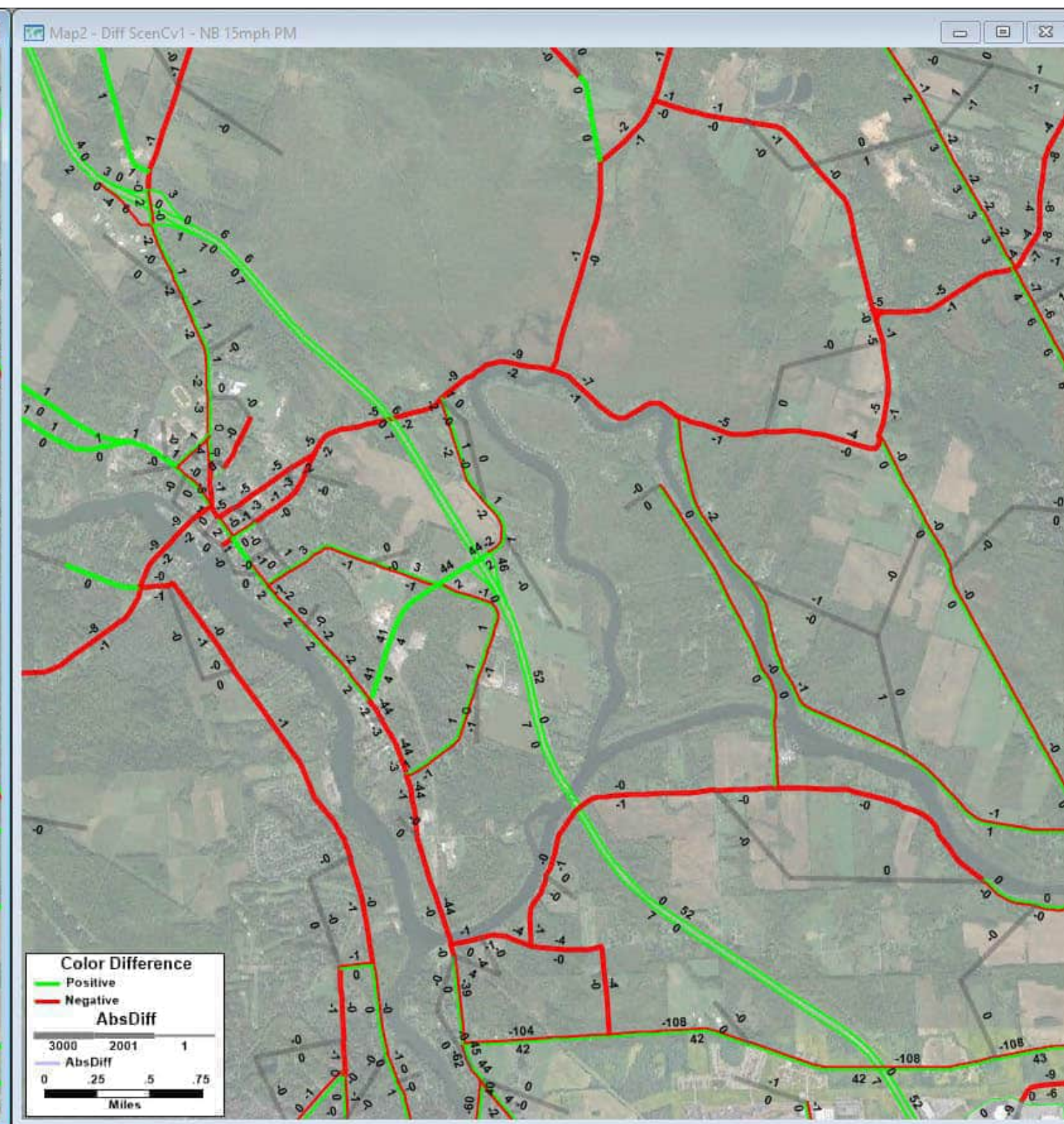
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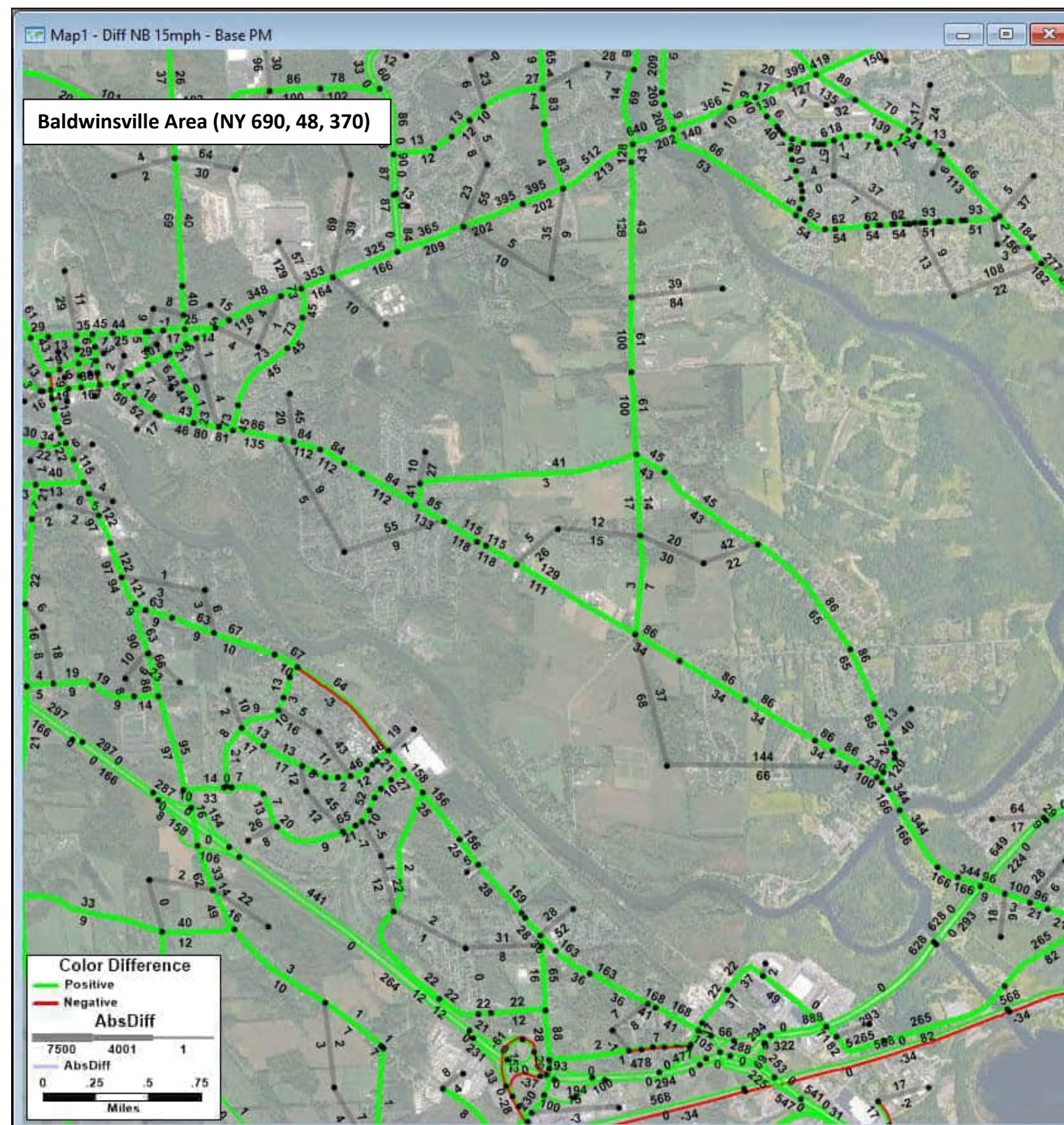


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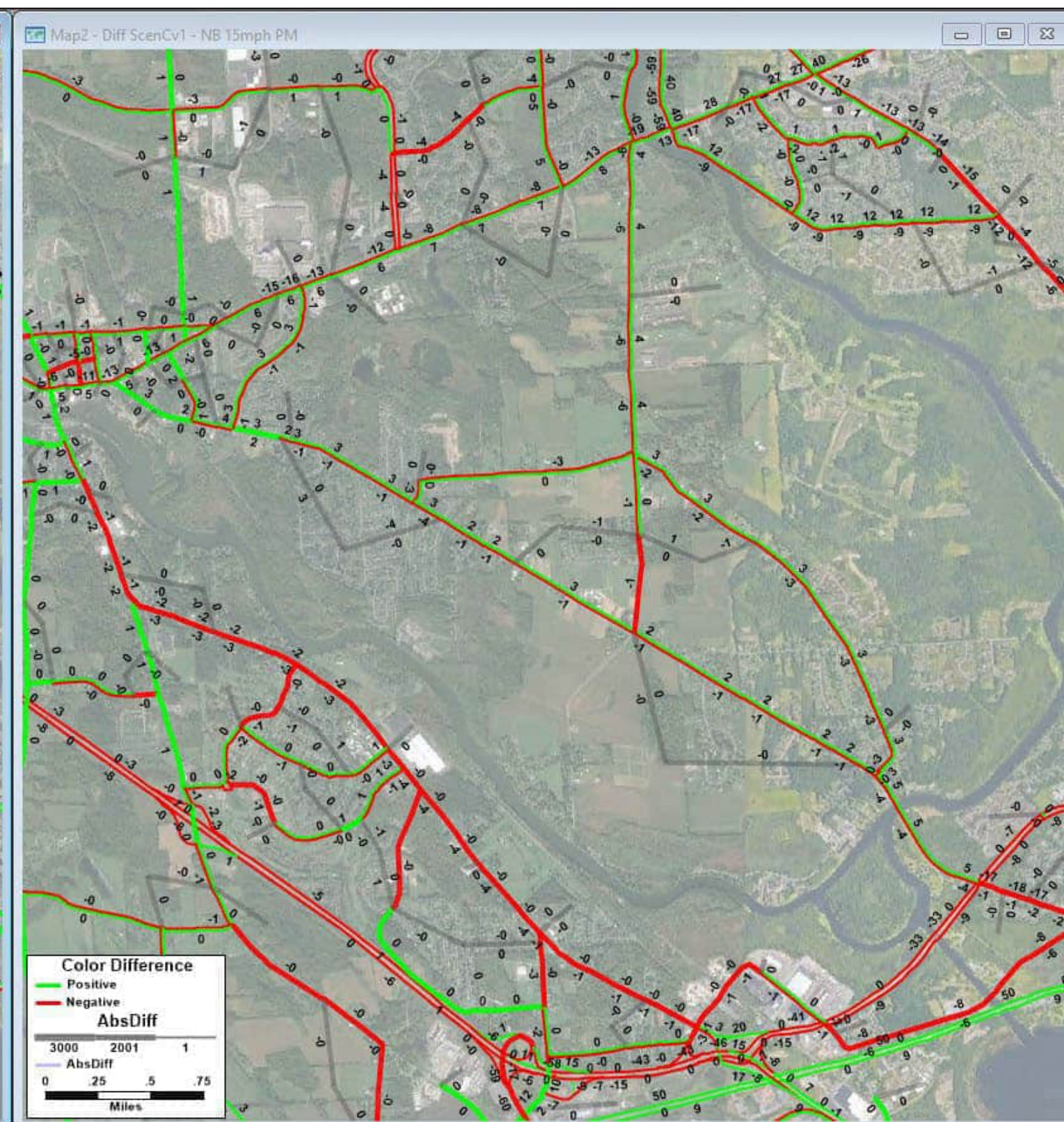




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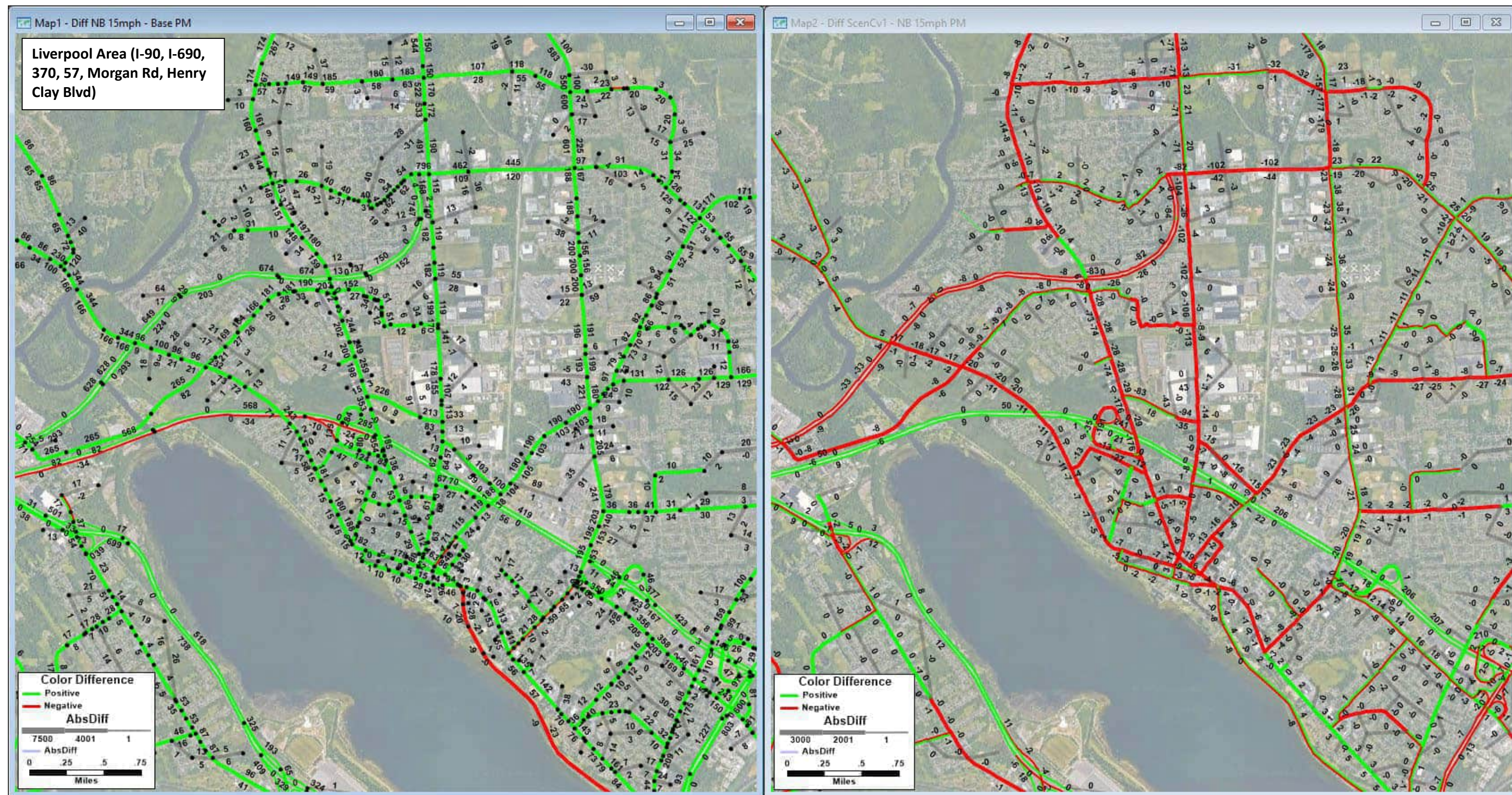


**2040 Scenario C v1 PM Volumes - 2040 No Build PM Volumes = Change in PM Volumes**

Build: All future land use and anticipated transportation projects with Scenario C network changes

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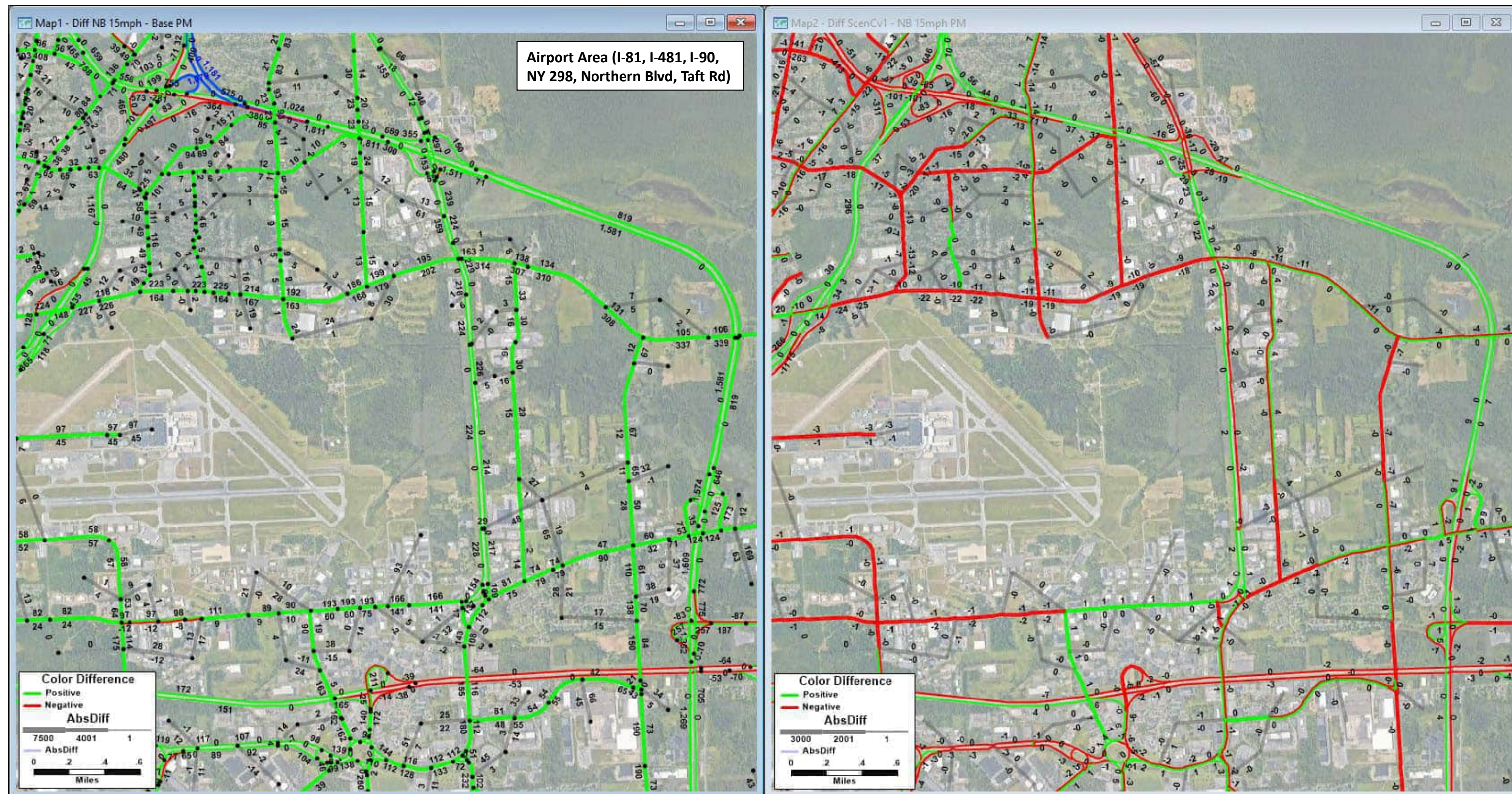




**2040 No Build PM Volumes - 2020 Existing Conditions PM Volumes = Change in PM Volumes**  
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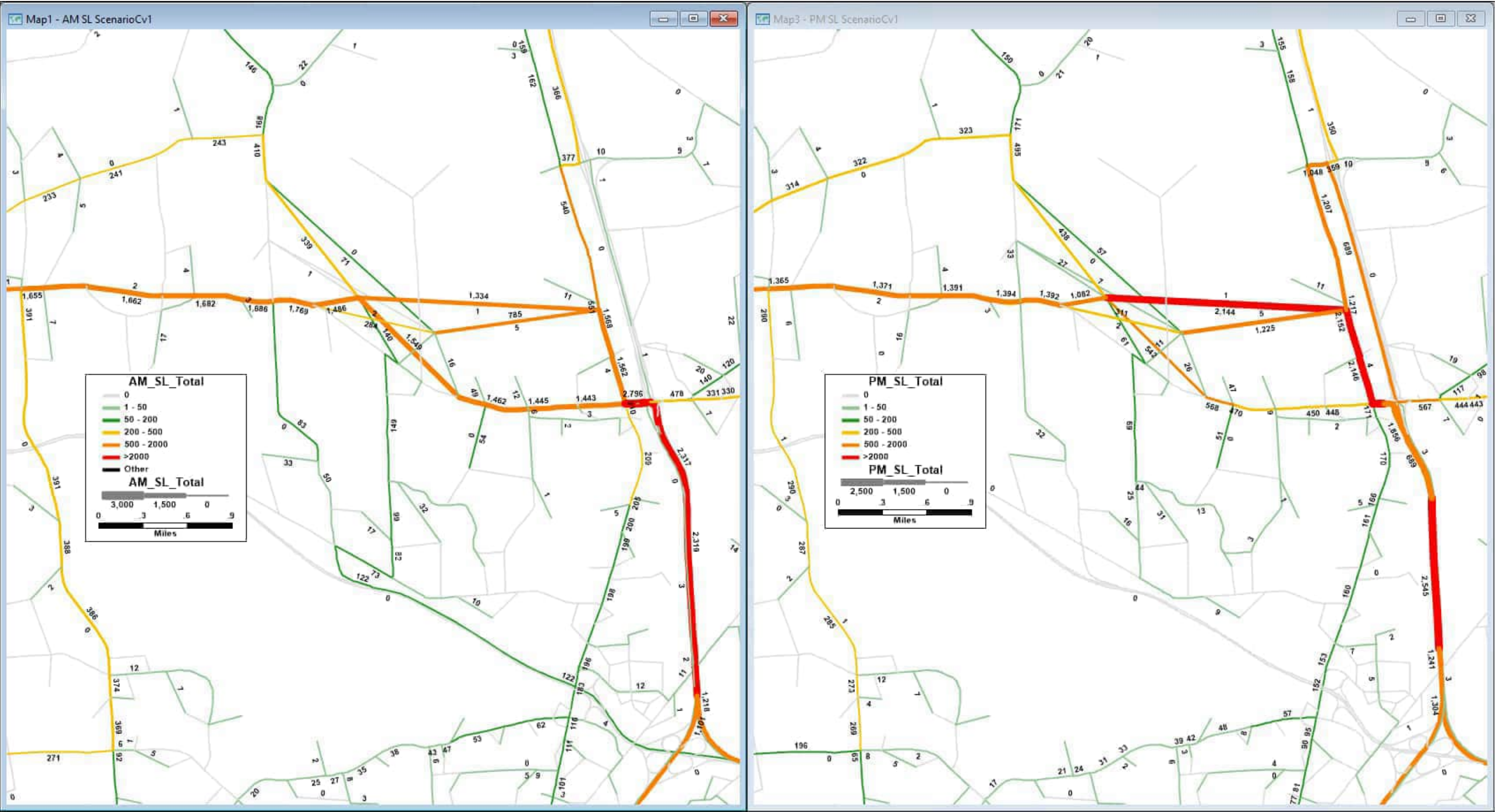




**2040 No Build PM Volumes - 2020 Existing Conditions PM Volumes = Change in PM Volumes**  
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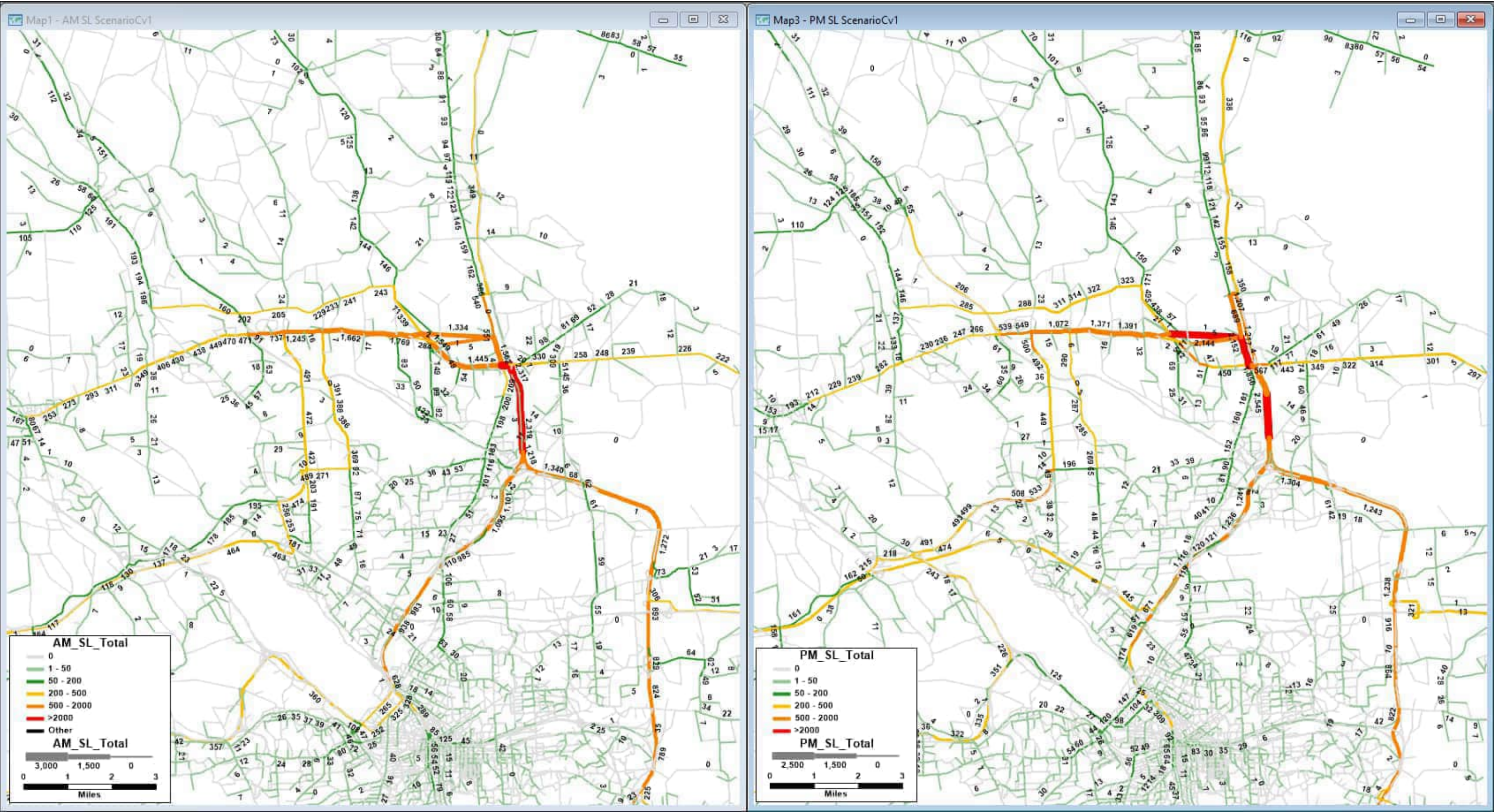




AM Peak Hour

PM Peak Hour



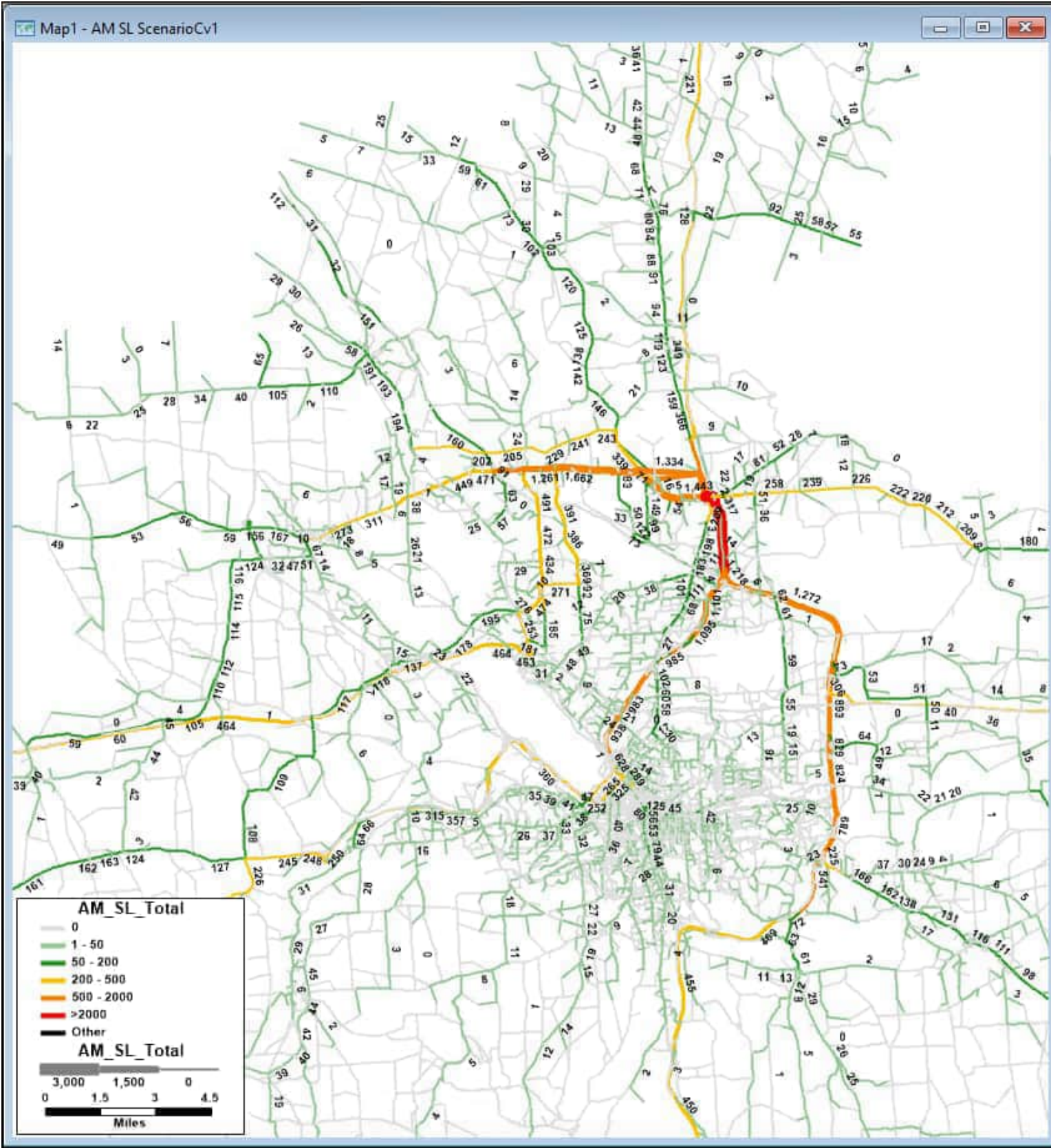


AM Peak Hour

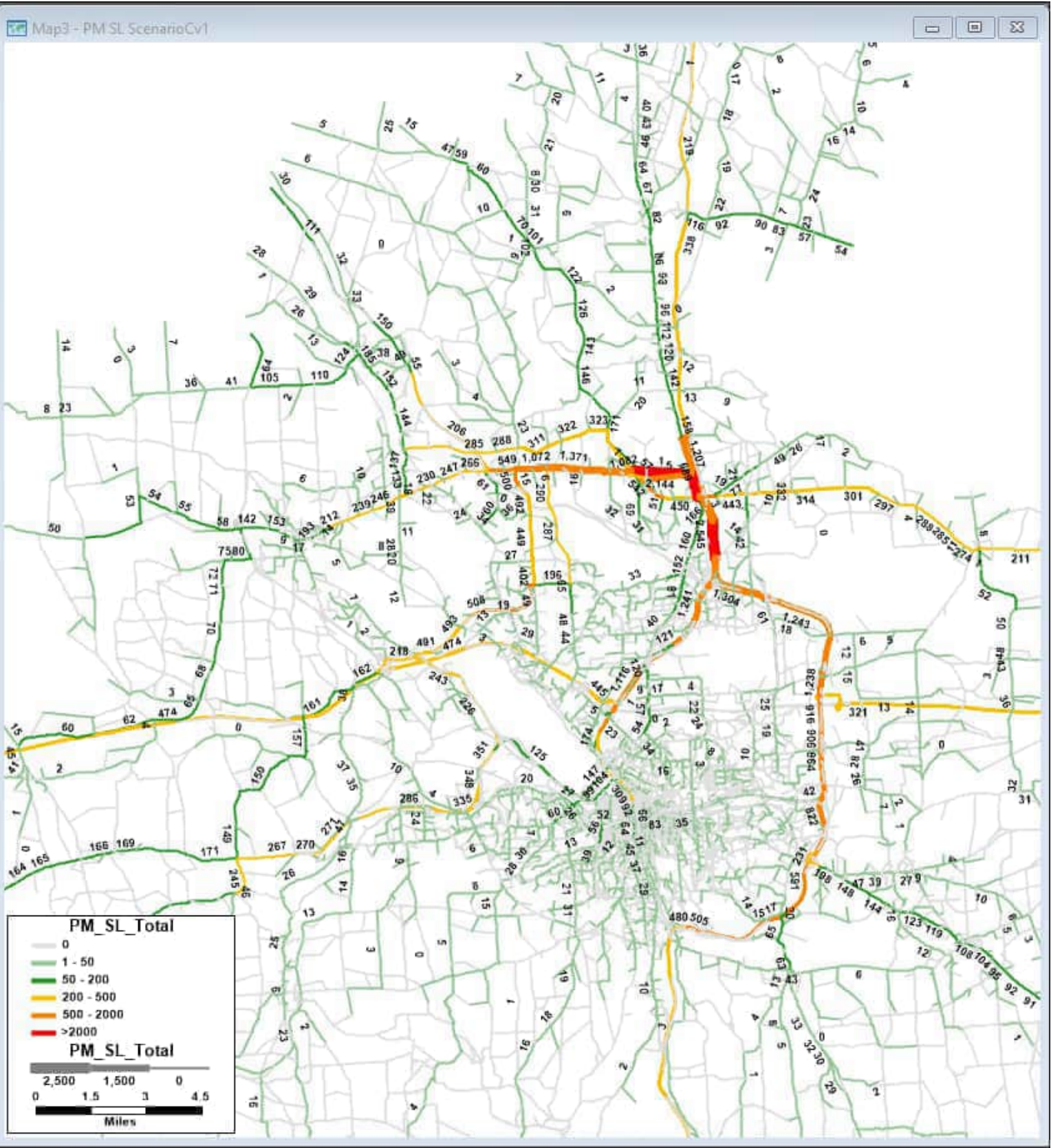
PM Peak Hour



SMTC Travel Demand Model Results: **Scenario C v1** (New I81 Interchange & SPUi @ Rt31 & I81) – **MICRON CENTROID CONNECTOR AM & PM PEAK HOUR SELECT LINK ANALYSIS**



AM Peak Hour



PM Peak Hour



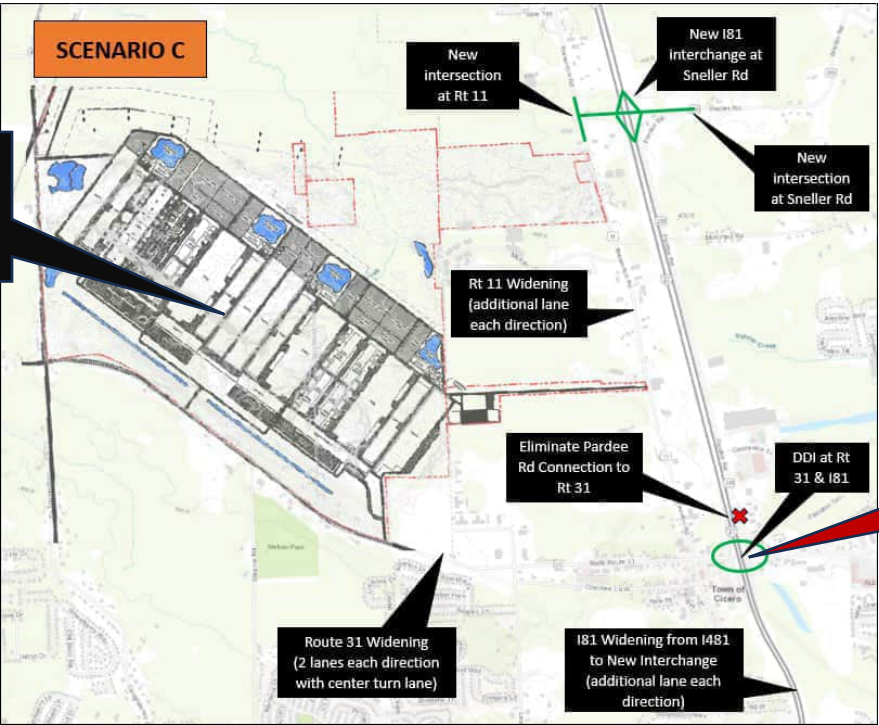
SMTC Travel Demand Model Results: **Scenario C v2** (New I81 Interchange & Reduced Capacity SPUI @ Rt31 & I81) – **AM PEAK HOUR CHANGE IN VOLUMES**

The graphic to the right shows the general assumptions for **Scenario C v2** →

Notes:

- All 2040 scenarios include projected future land use growth (including Micron)
- **RED** callouts note the revisions made to Scenario C

Equal travel time for  
all Micron TAZ  
centroid connectors



REDUCED CAPACITY  
SPUI instead of DDI

The graphic to the right is an example of what is included in this document →

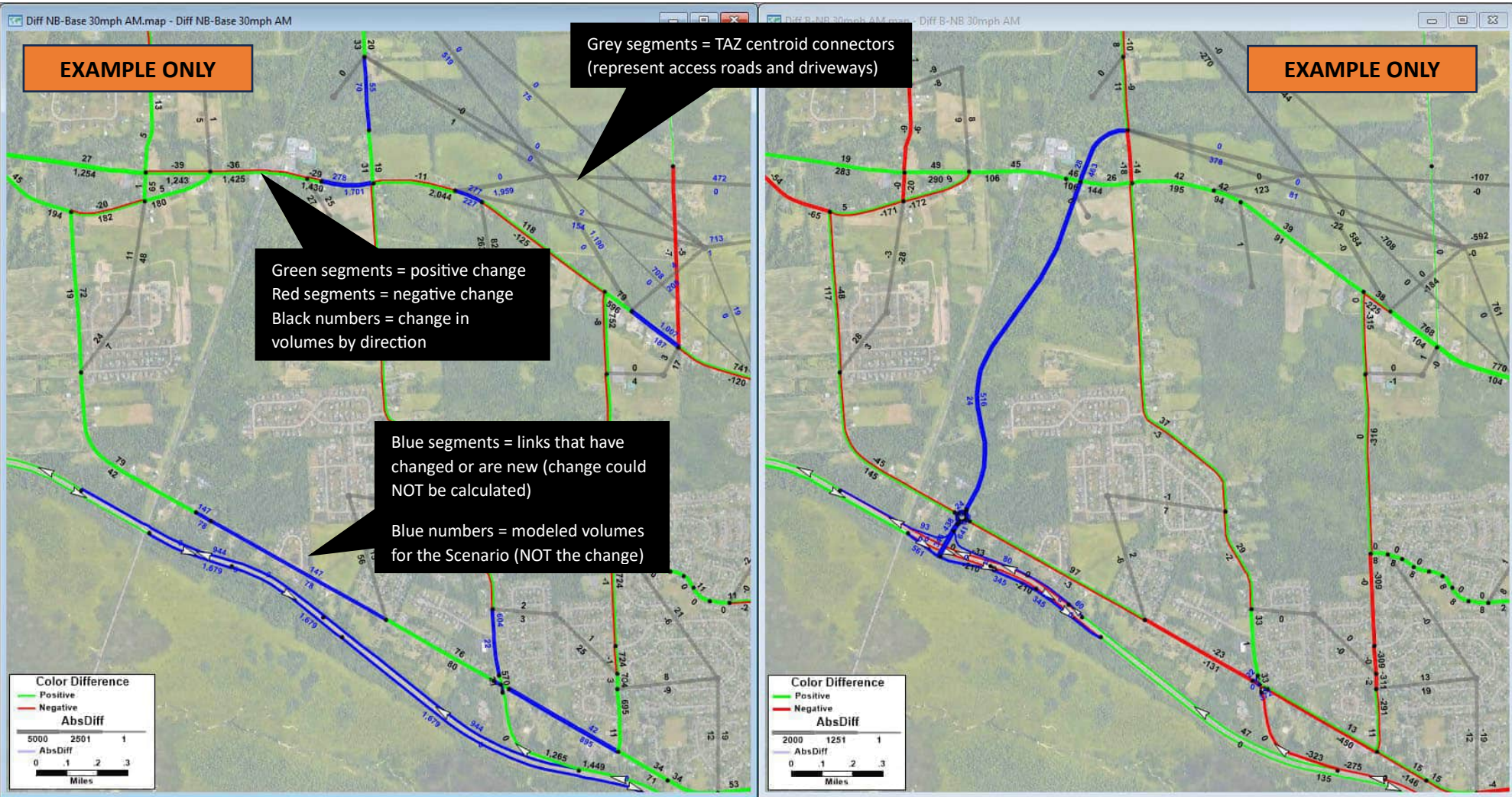
The map on the left displays the change in **AM** volumes between the 2020 existing conditions base model to the 2040 No Build (**2040 NB AM Volumes less 2020 AM volumes**). No Build in this case refers to no network improvements, the build future land use conditions are included (including Micron).

The map on the right displays the change in **AM** volumes between the 2040 No Build to the 2040 Scenario “X” Build (**2040 Scenario “X” Build AM Volumes less 2040 NB AM volumes**).

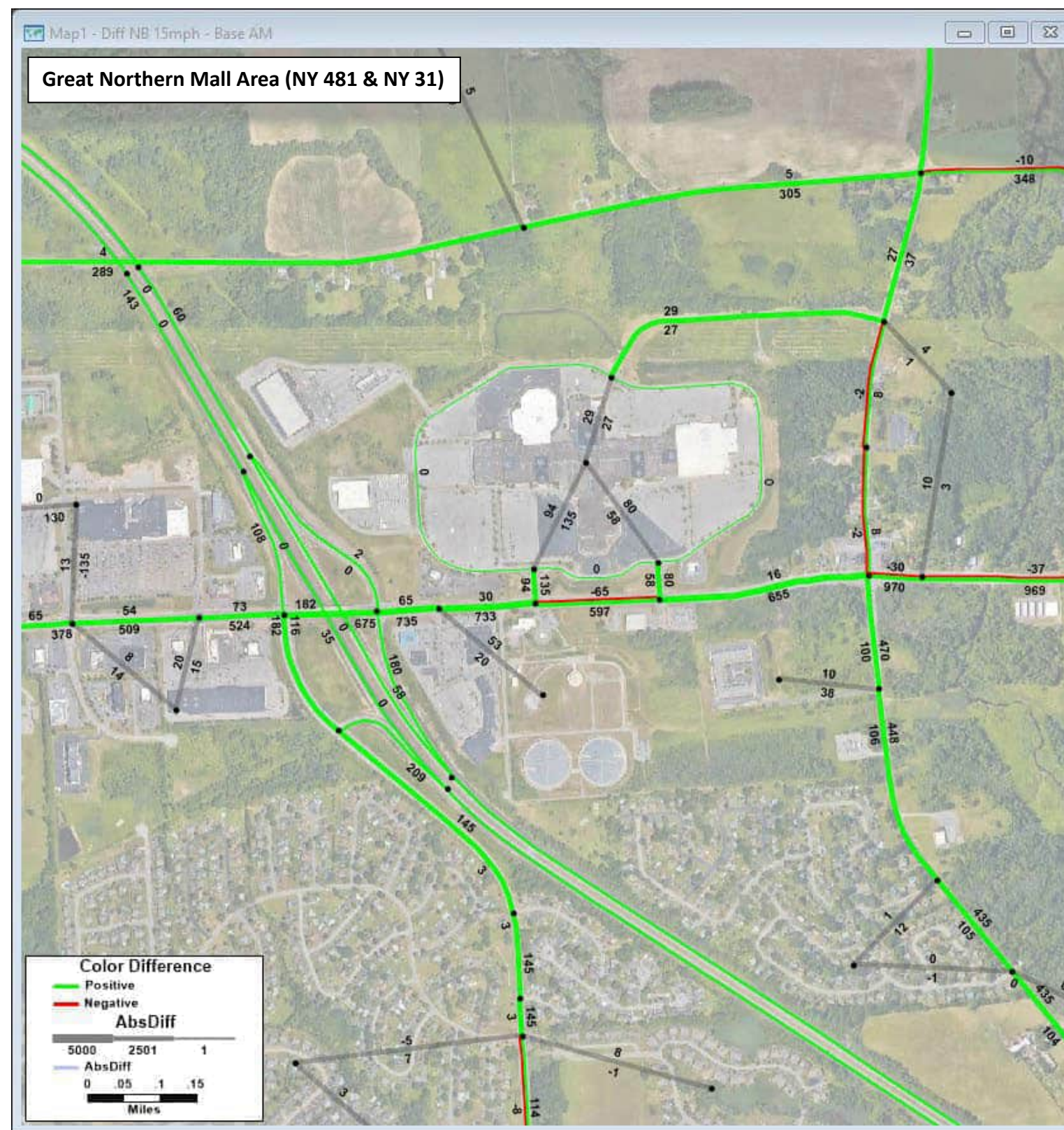
MAP NOTES:

- **Green** segments = positive change between identified scenarios
- **Red** segments = negative change between identified scenarios
- **Black numbers** = change in volumes by direction
- **Blue** segments = links that have changed or are new for that scenario therefore a change can **NOT** be calculated
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- **Gray** segments = TAZ centroid connectors (general representation of access roads and driveways)

To get total future volume on a segment add up the numbers from both maps and then add that to existing traffic counts.

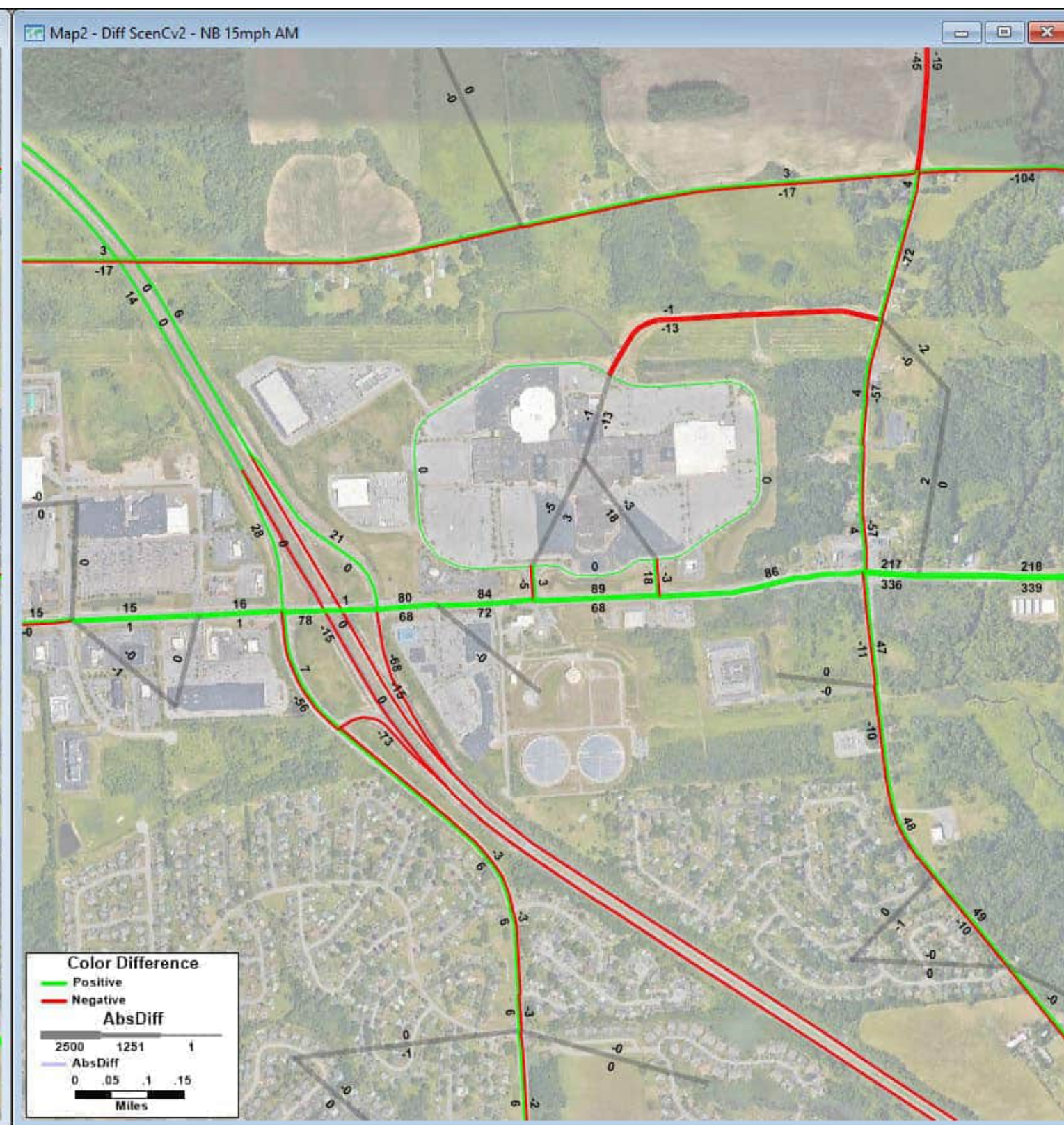






**2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes**

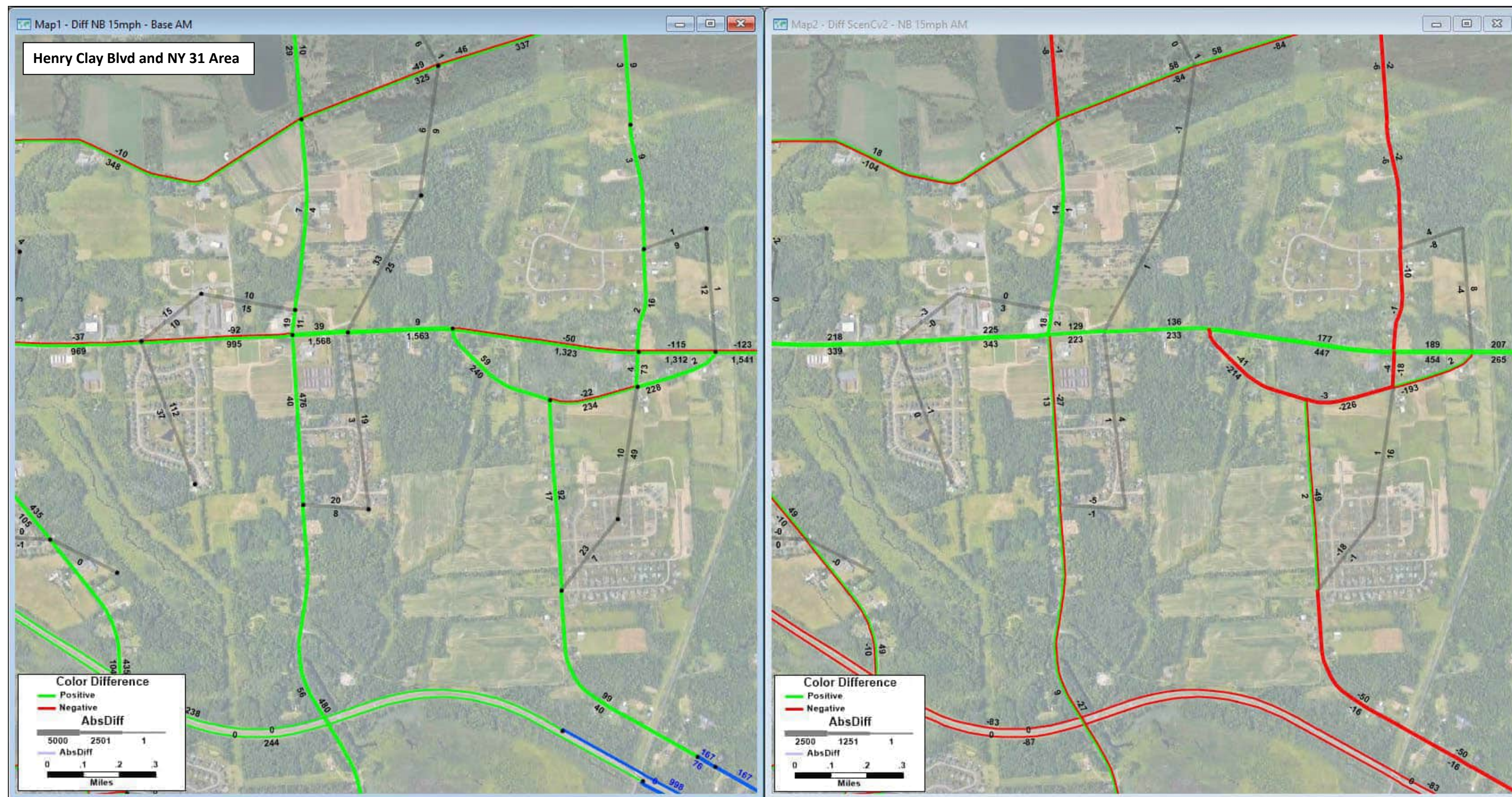
No Build: All future land use and anticipated transportation projects but no Scenario C network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



**2040 Scenario C v2 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes**

Build: All future land use and anticipated transportation projects with Scenario C network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

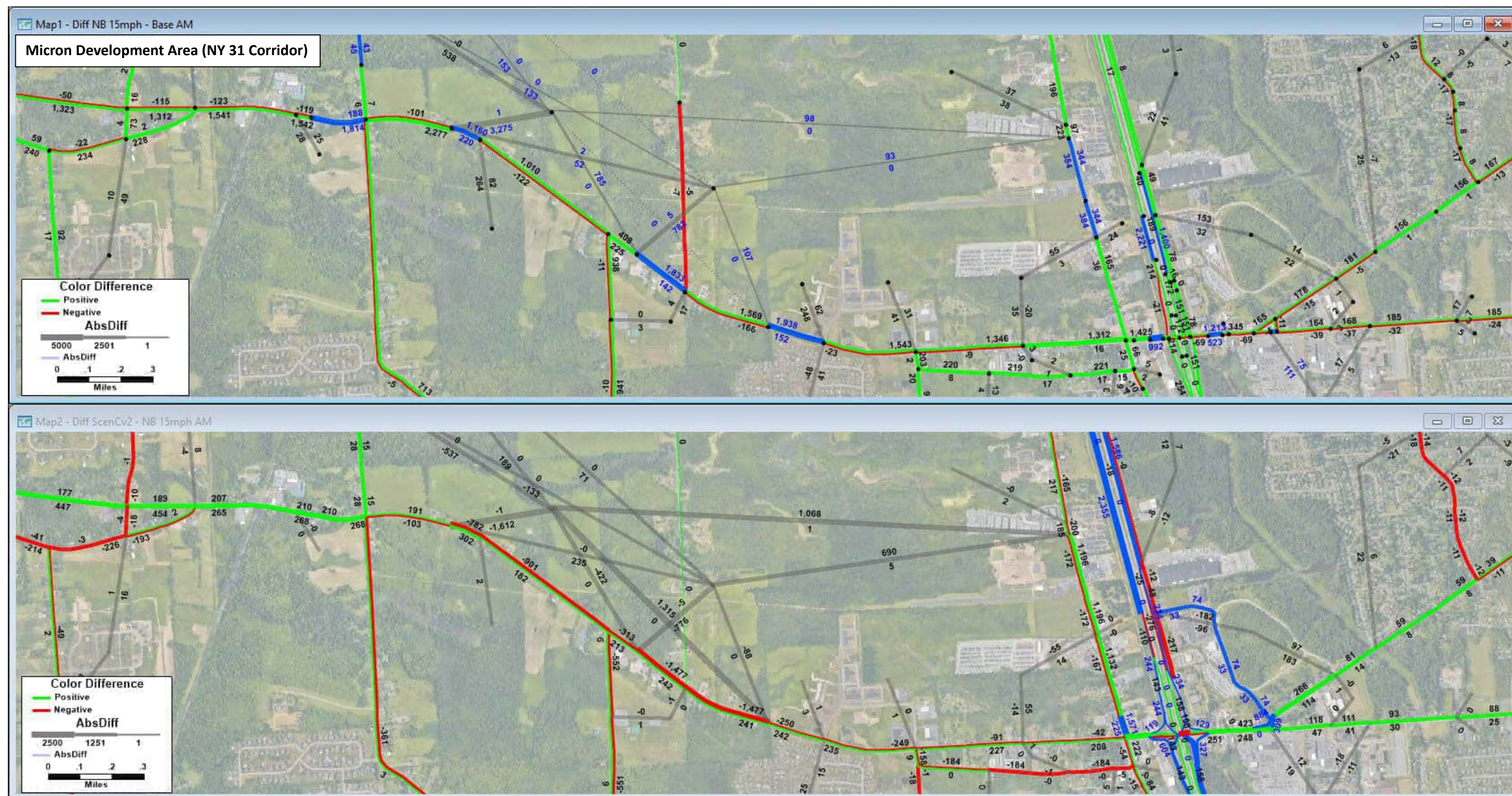




**2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes**  
No Build: All future land use and anticipated transportation projects but no Scenario C network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

**2040 Scenario C v2 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes**  
Build: All future land use and anticipated transportation projects with Scenario C network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

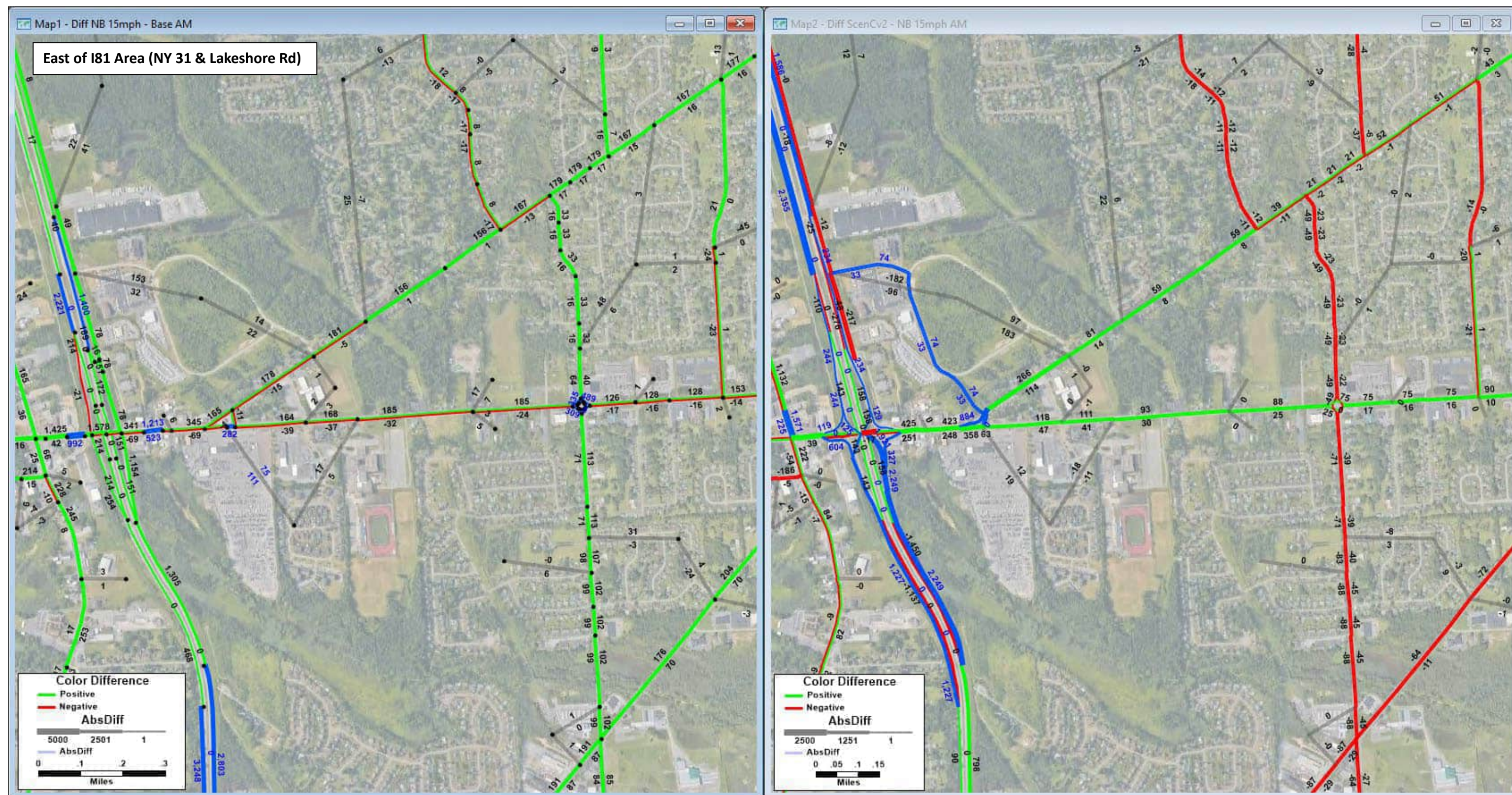




**(TOP MAP) 2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes**  
No Build: All future land use and anticipated transportation projects but no Scenario C network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

**(Bottom MAP) 2040 Scenario C v2 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes**  
Build: All future land use and anticipated transportation projects with Scenario C network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)





**2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes**

No Build: All future land use and anticipated transportation projects but no Scenario C network changes

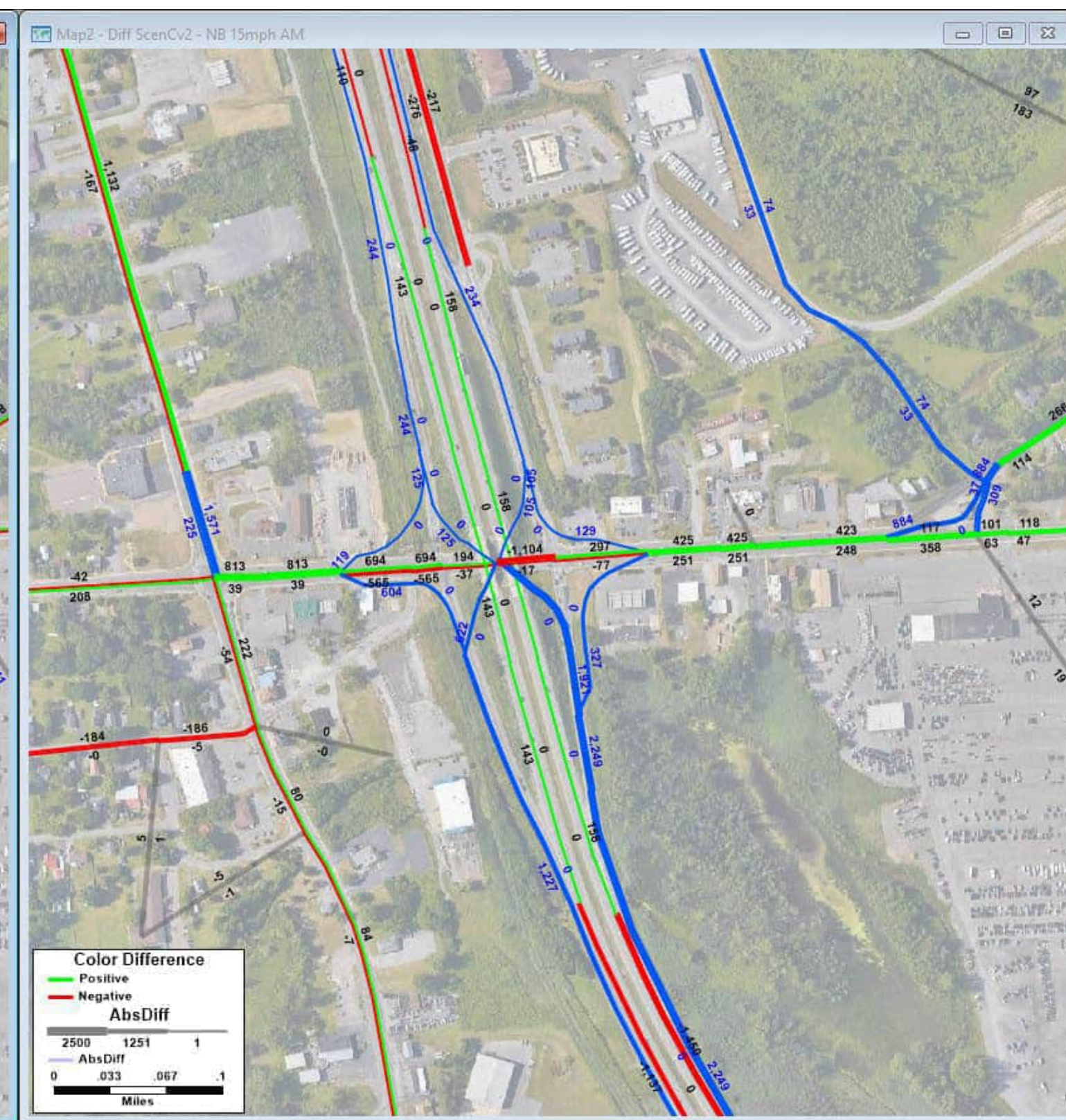
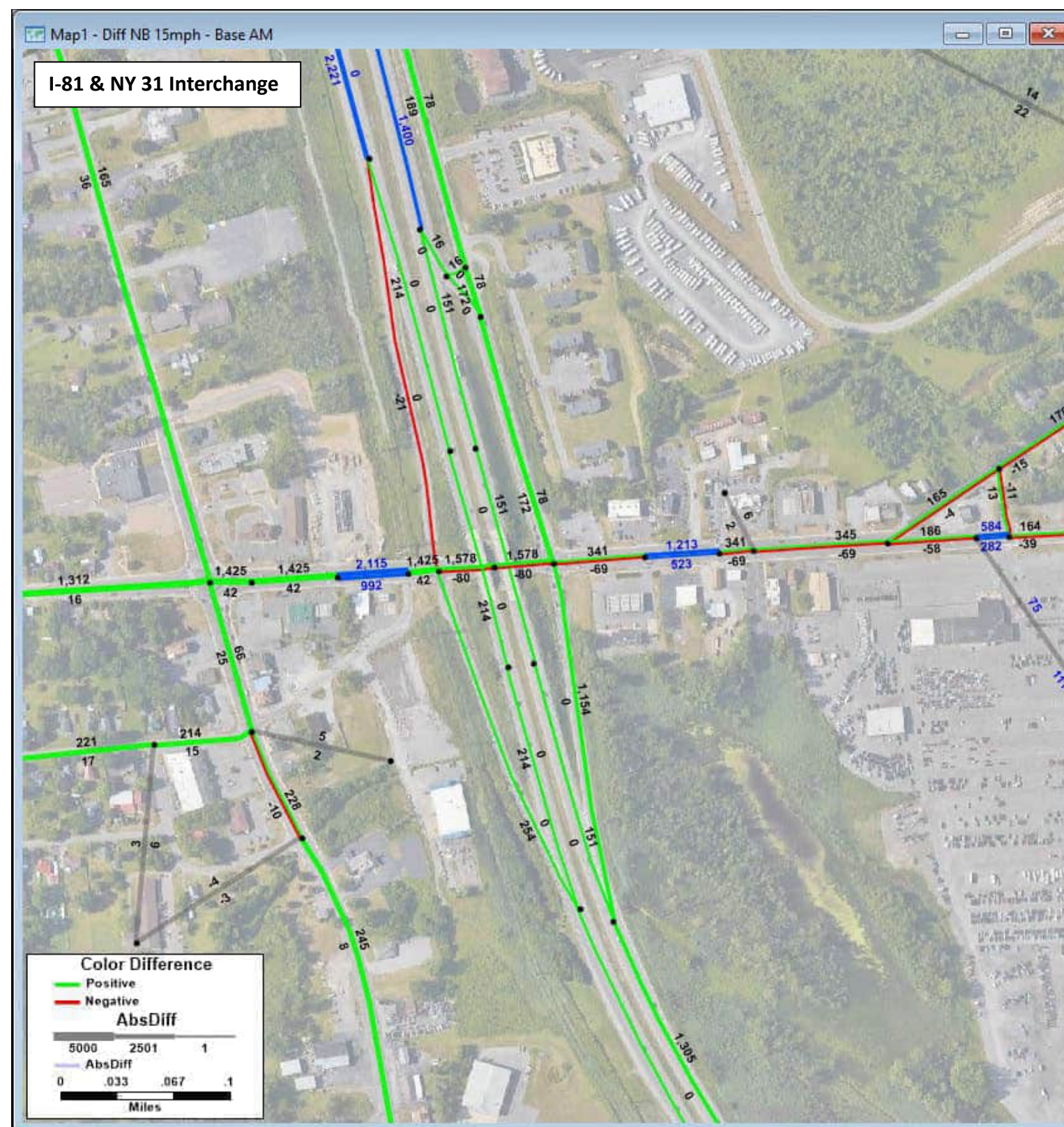
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**2040 Scenario C v2 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes**

Build: All future land use and anticipated transportation projects with Scenario C network changes

Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

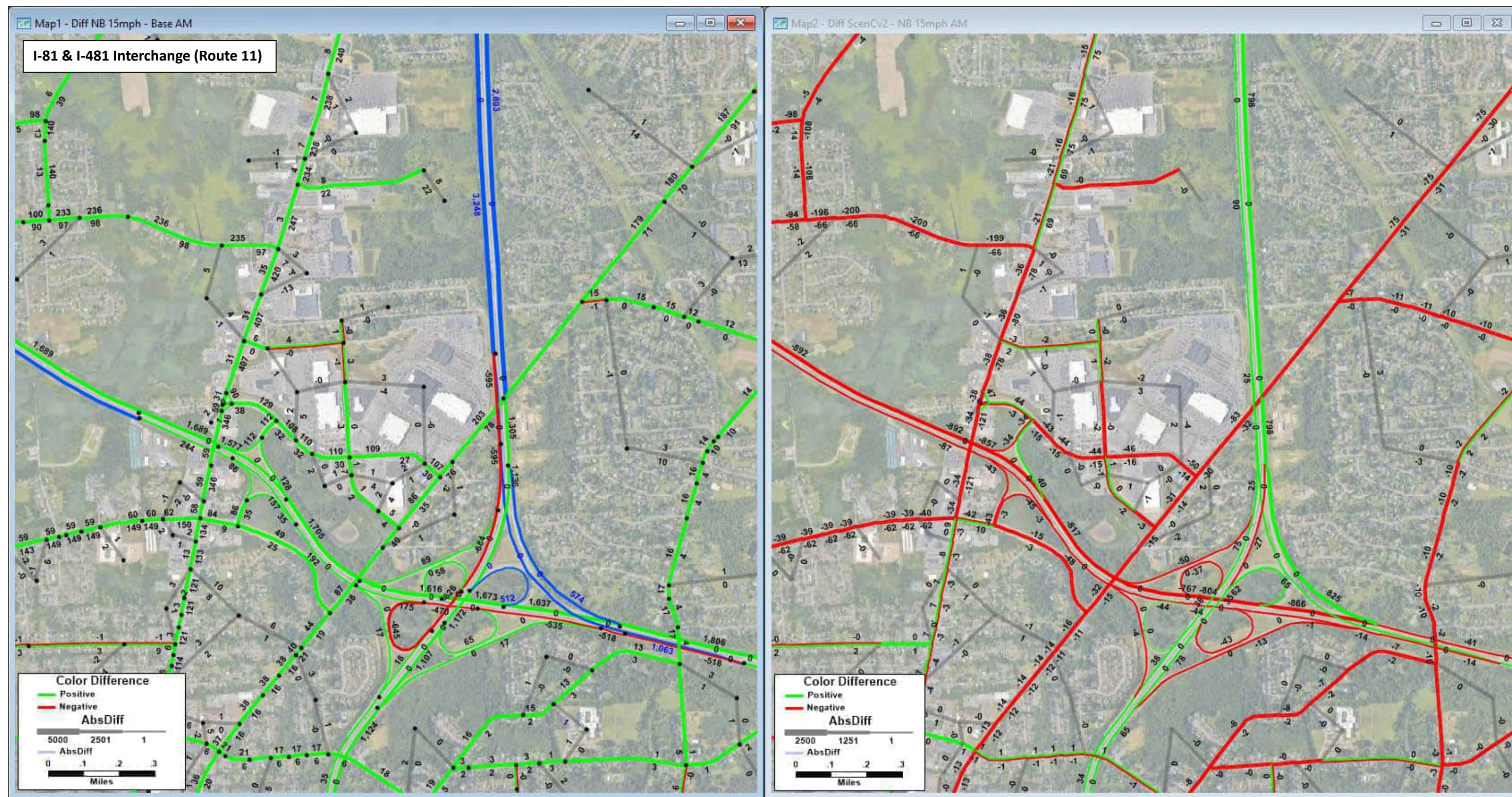




**2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes**  
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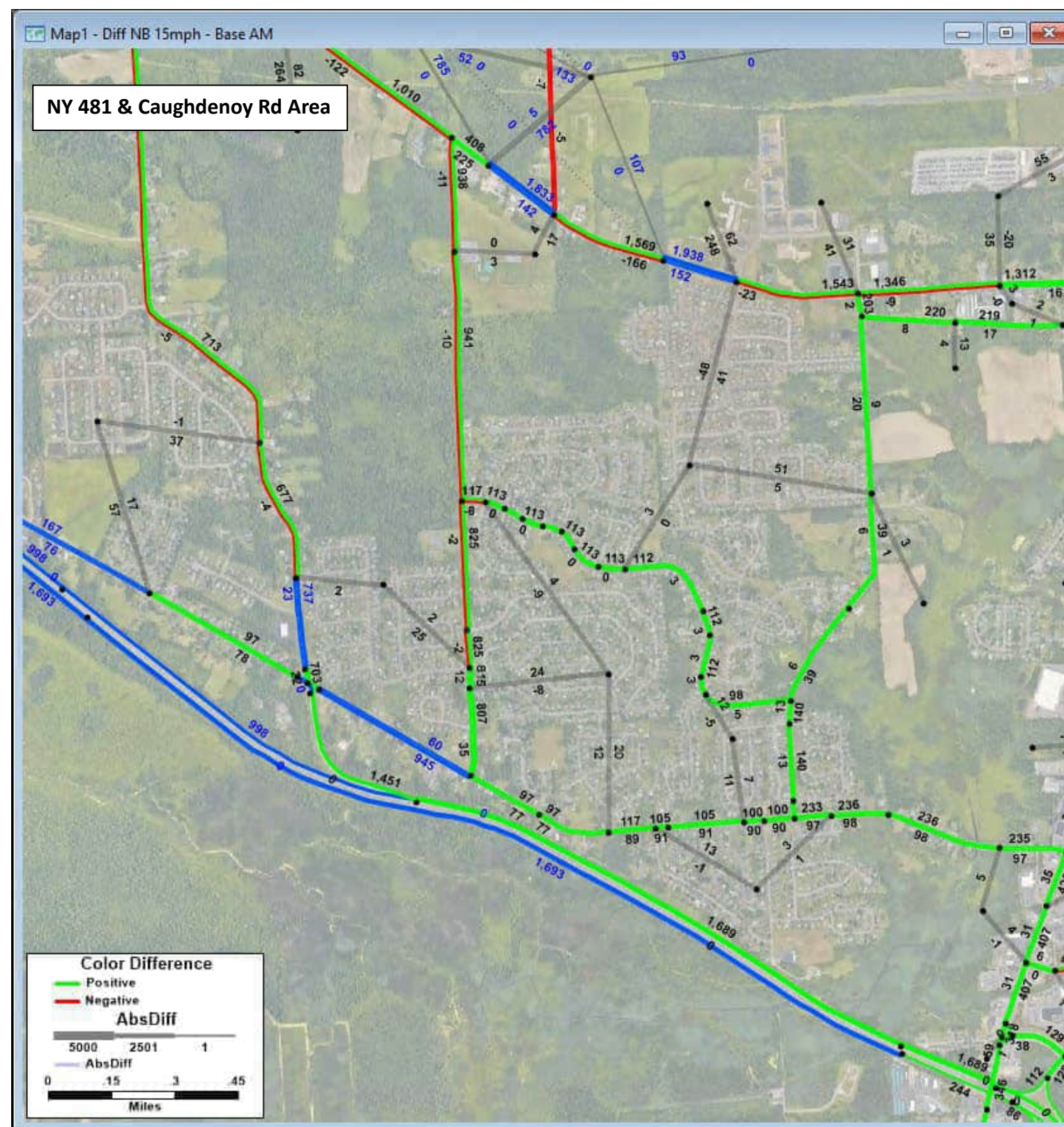




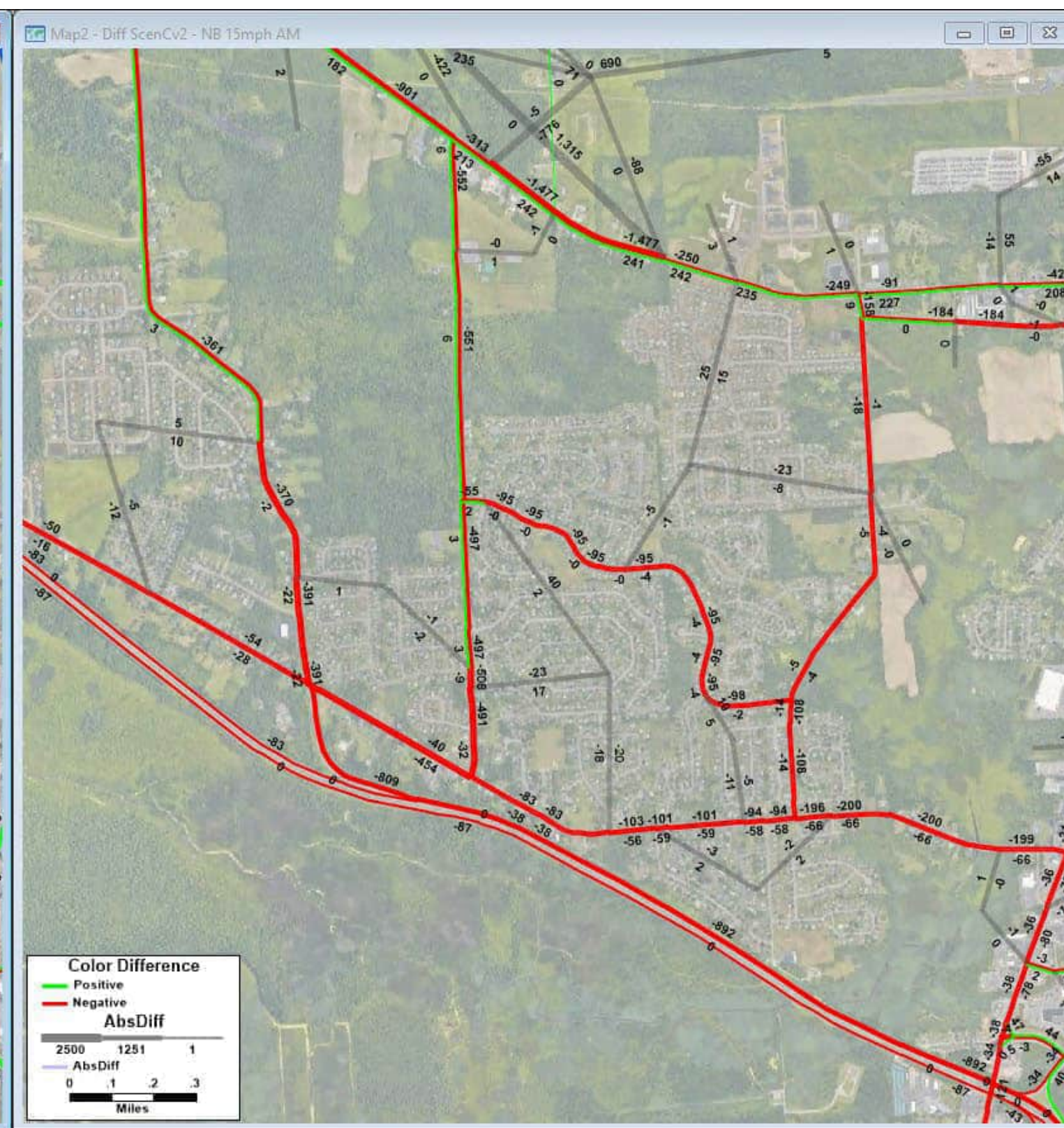
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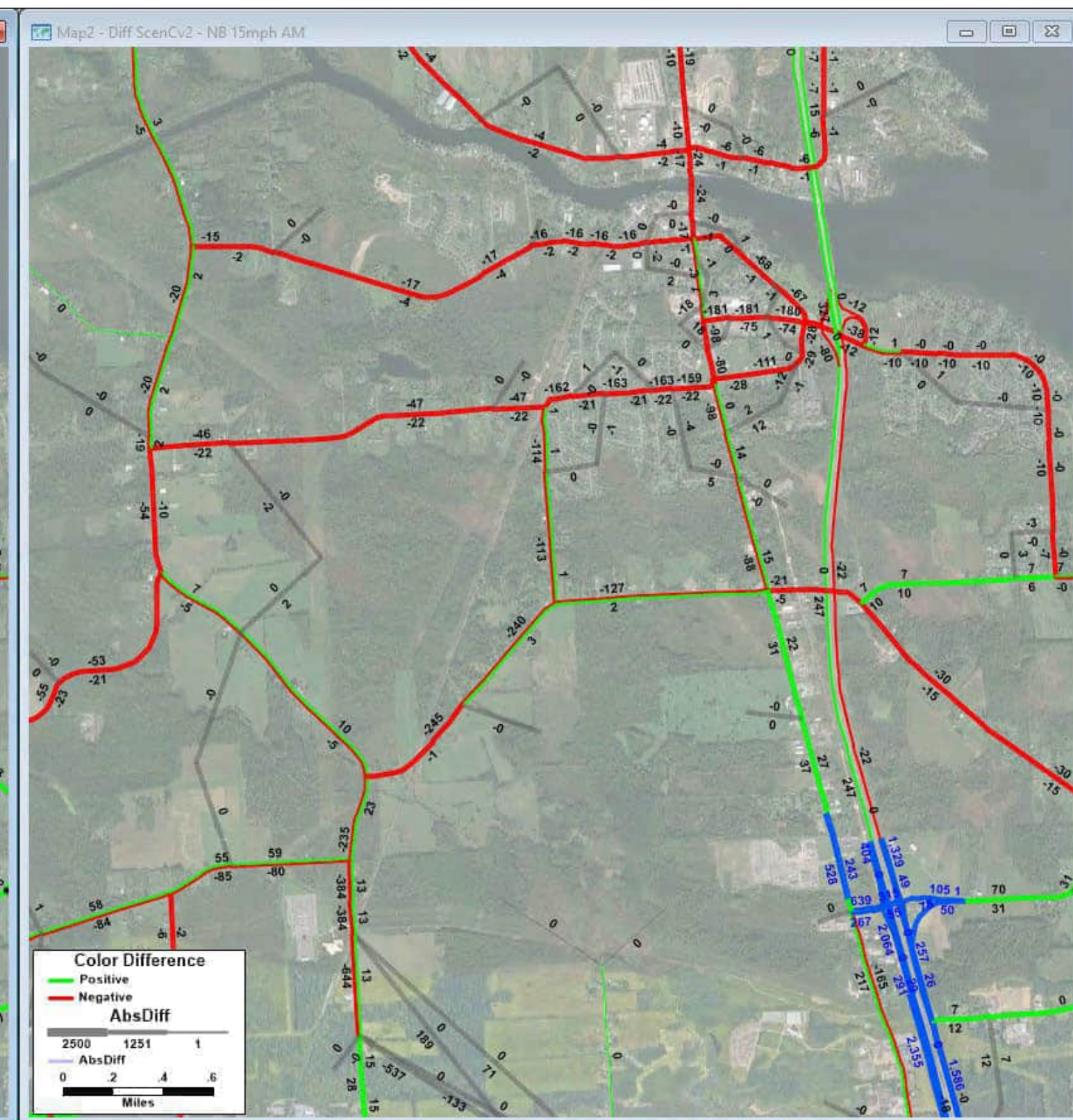
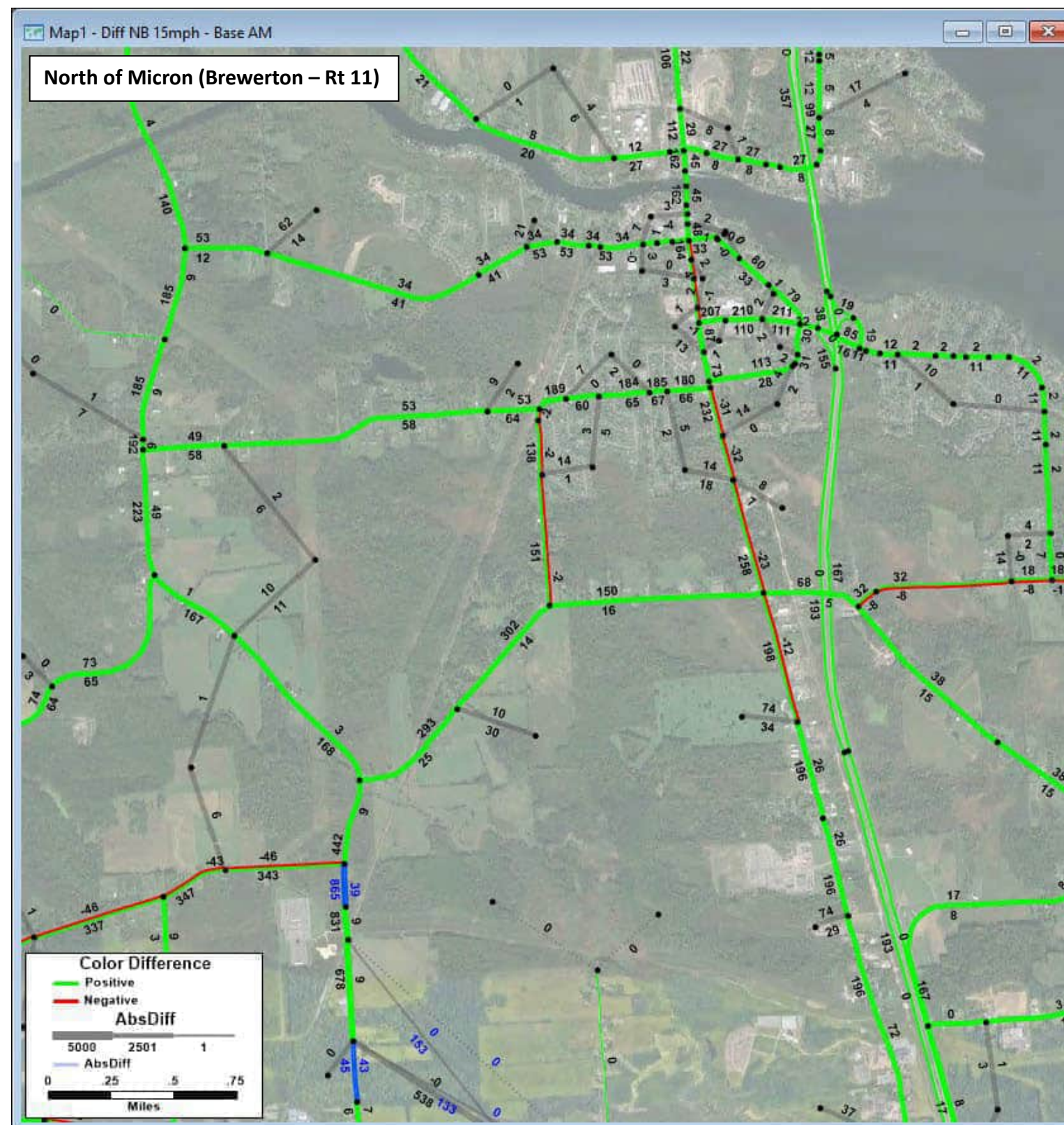


**2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes**  
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Build: All future land use and anticipated transportation projects with Scenario C network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

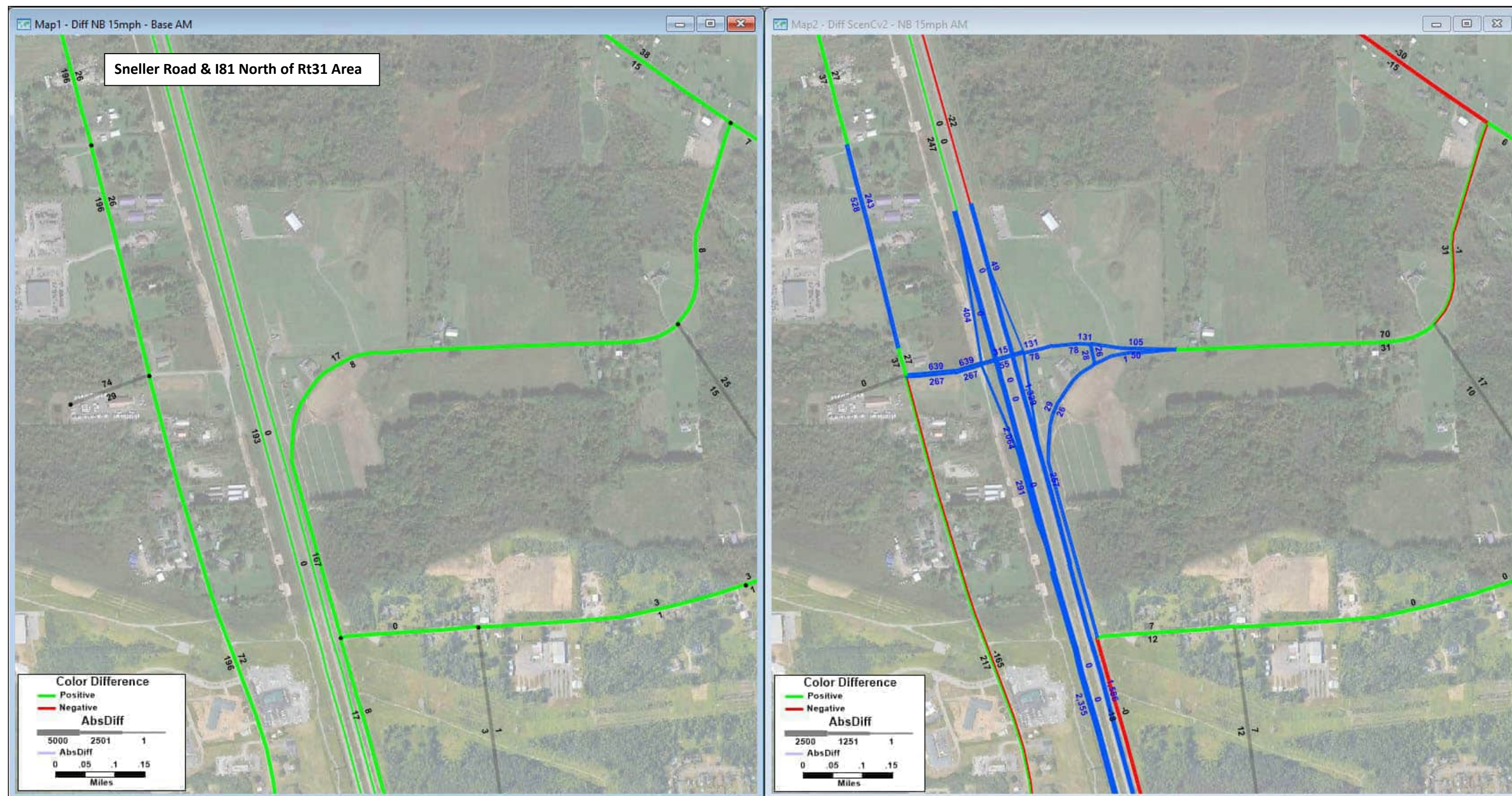




**2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes**  
No Build: All future land use and anticipated transportation projects but no Scenario C network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

**2040 Scenario C v2 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes**  
Build: All future land use and anticipated transportation projects with Scenario C network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

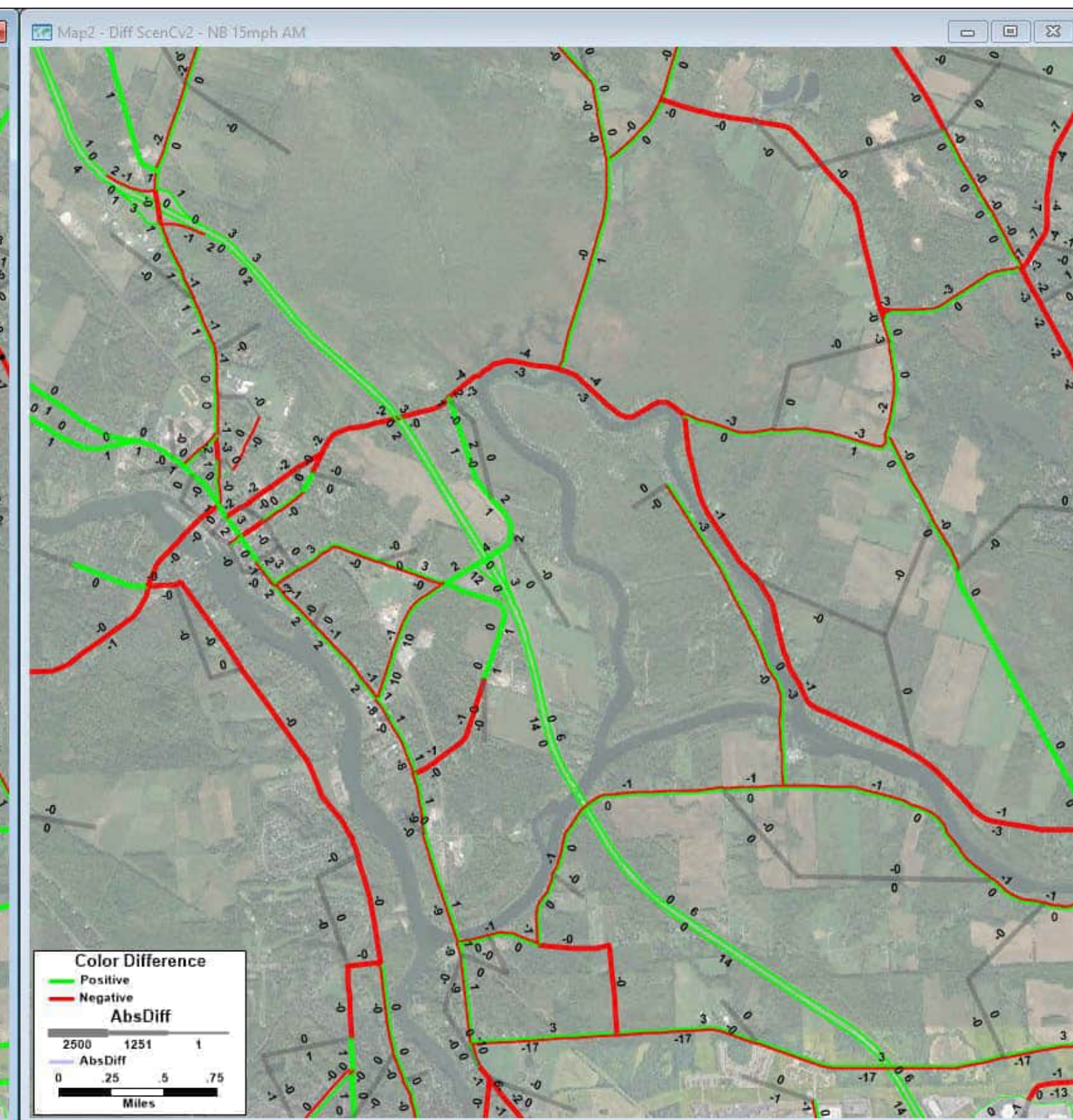
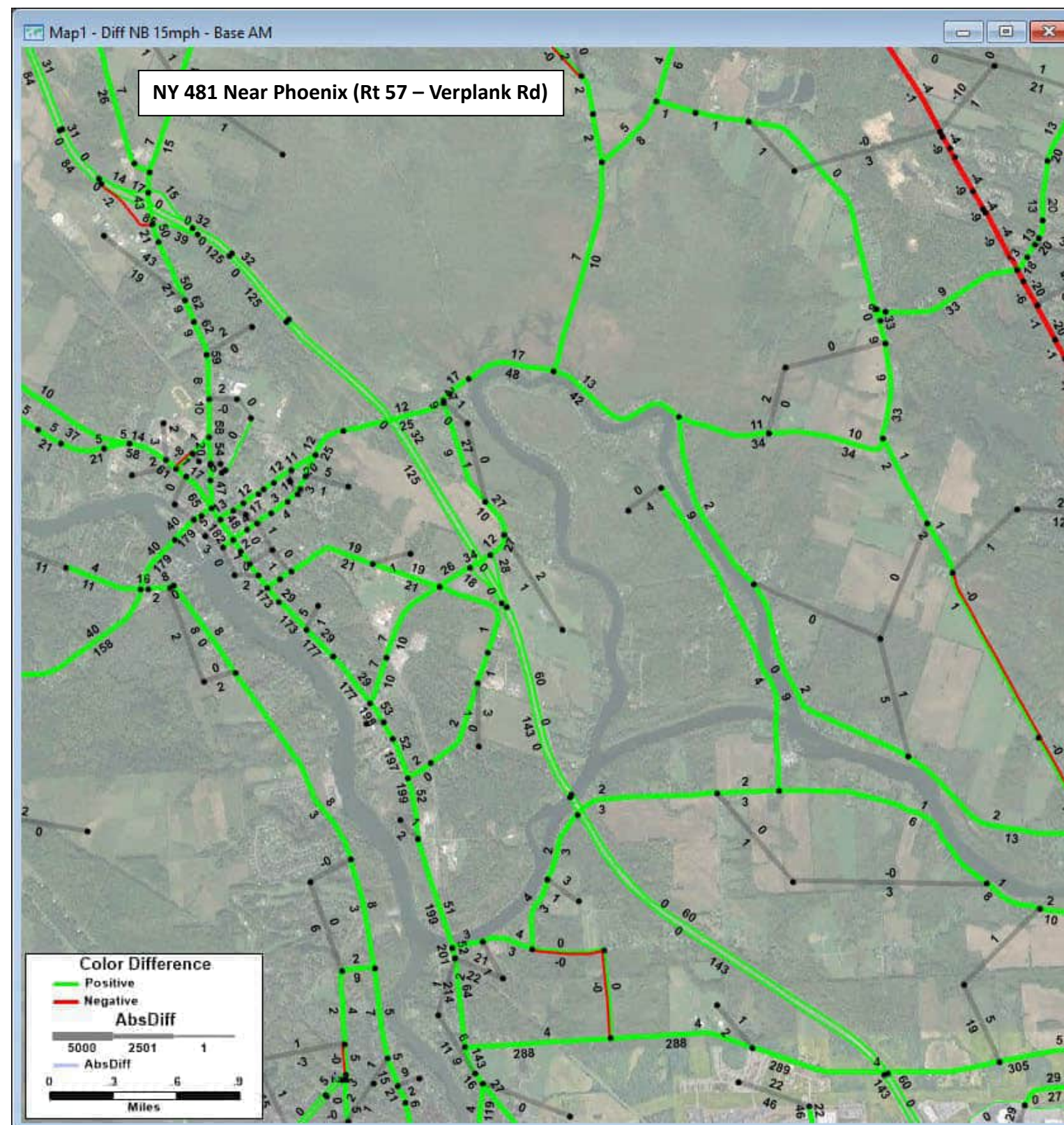




**2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes**  
No Build: All future land use and anticipated transportation projects but no Scenario C network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

**2040 Scenario C v2 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes**  
Build: All future land use and anticipated transportation projects with Scenario C network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

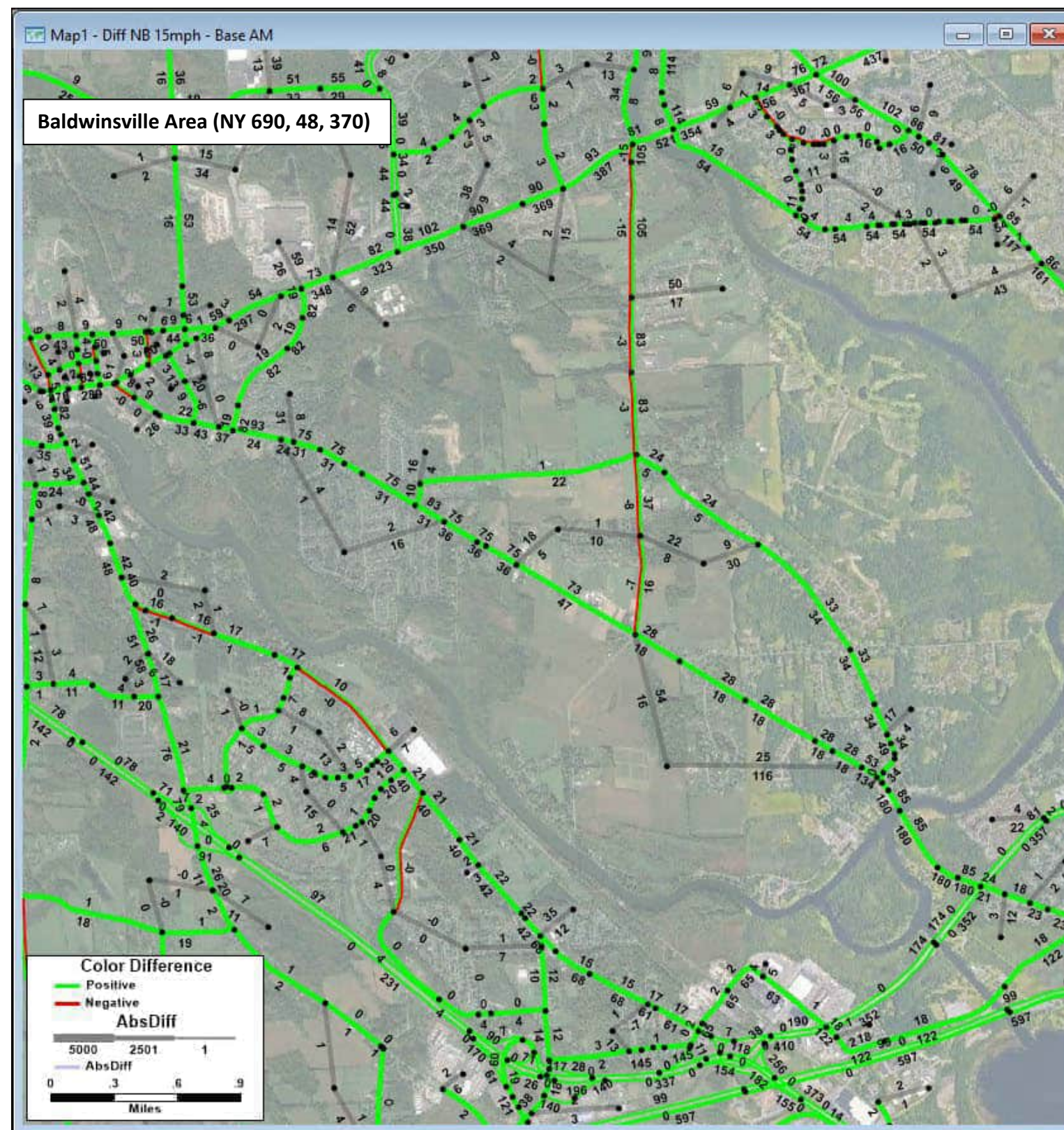




**2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes**  
No Build: All future land use and anticipated transportation projects but no Scenario C network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

**2040 Scenario C v2 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes**  
Build: All future land use and anticipated transportation projects with Scenario C network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

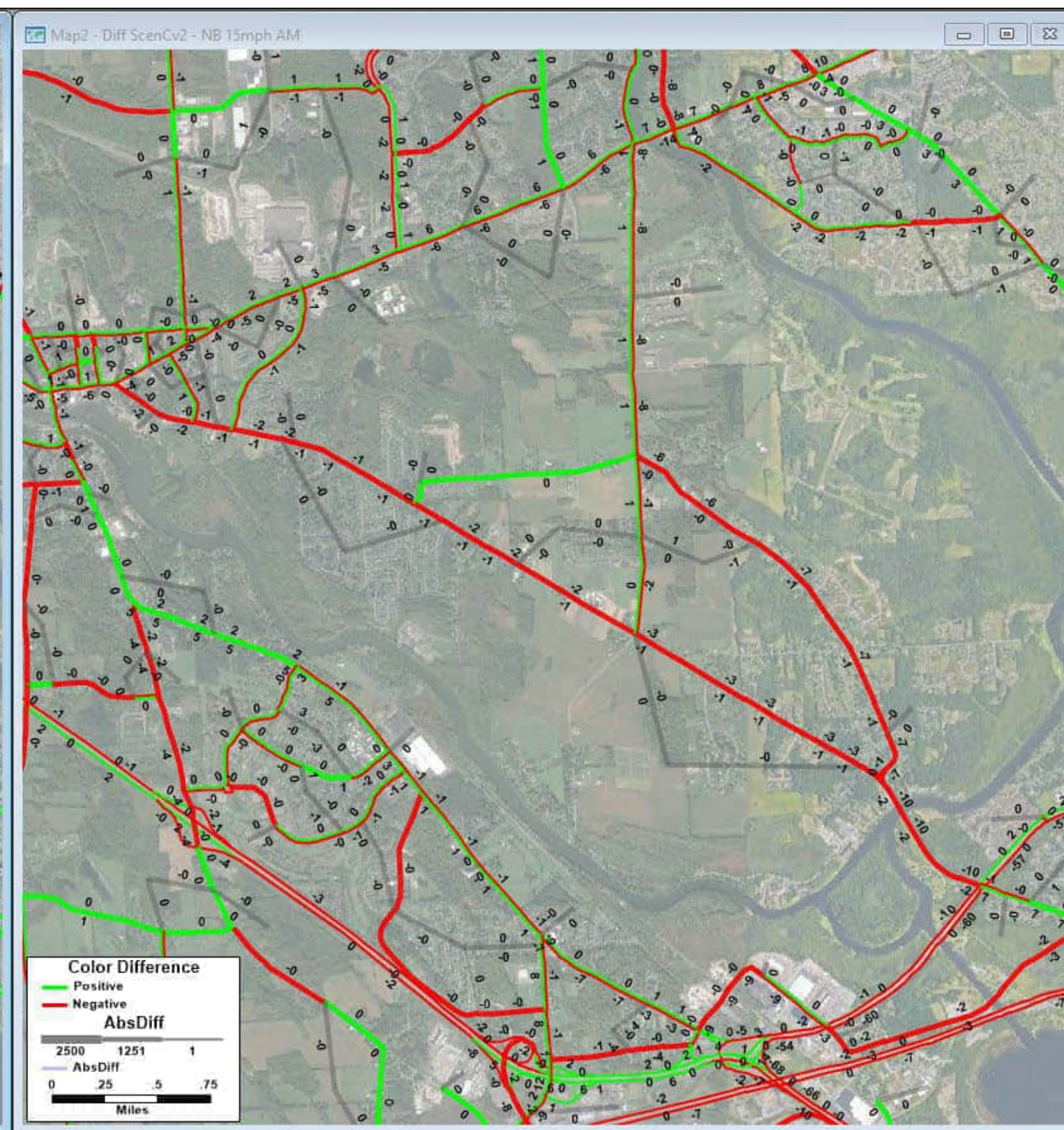




**2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes**

No Build: All future land use and anticipated transportation projects but no Scenario C network changes

Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

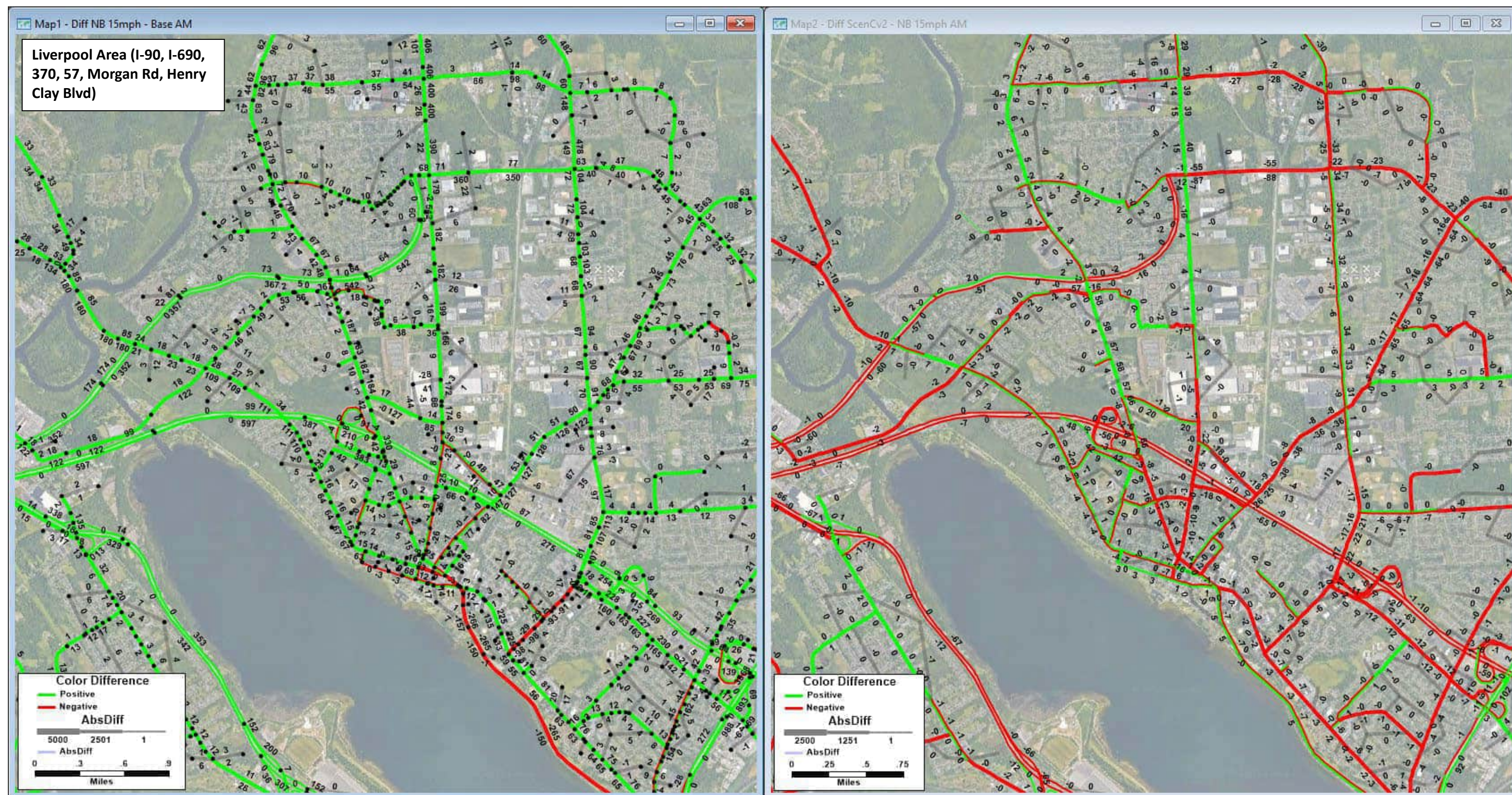


**2040 Scenario C v2 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes**

Build: All future land use and anticipated transportation projects with Scenario C network changes

Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

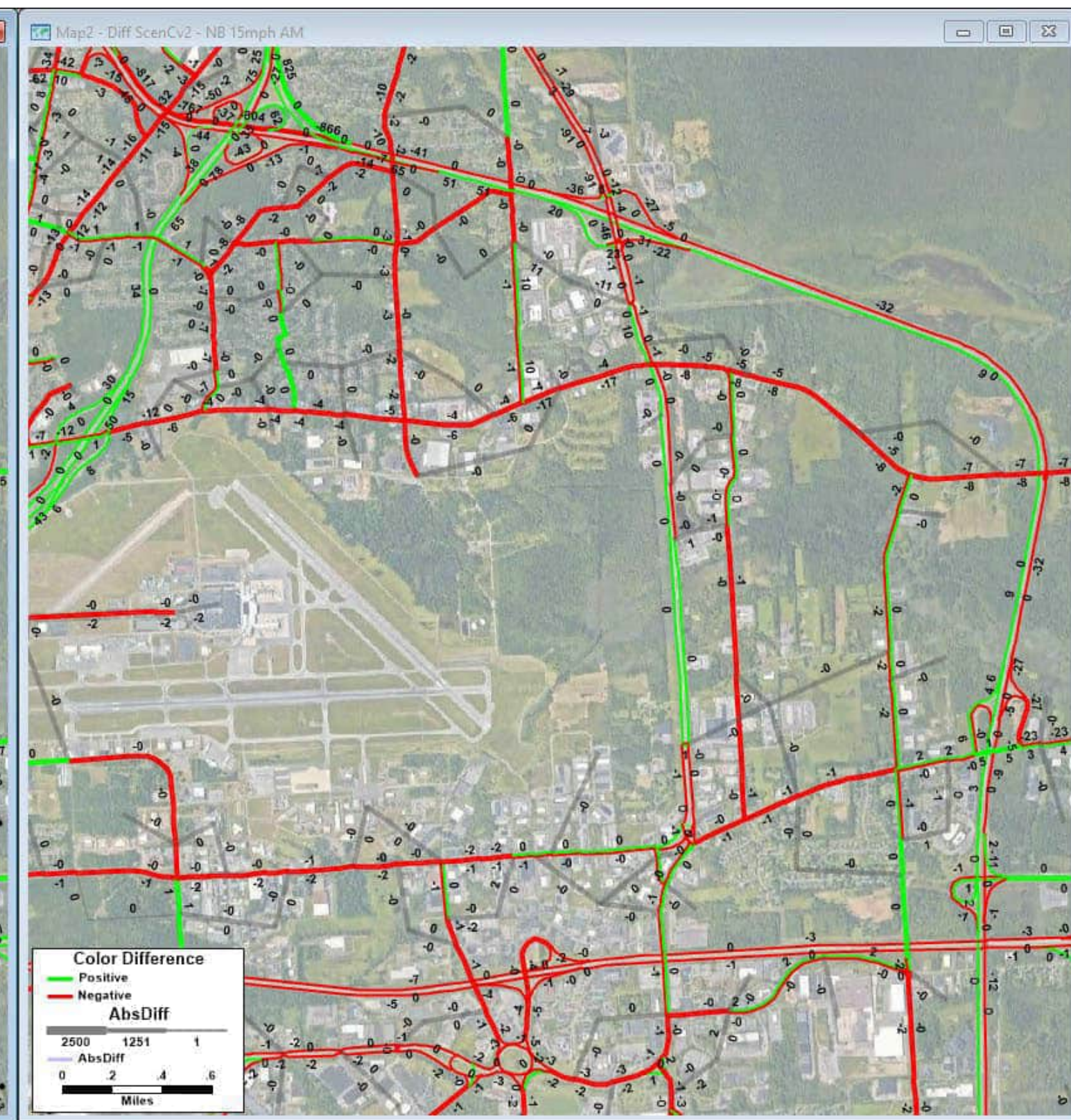
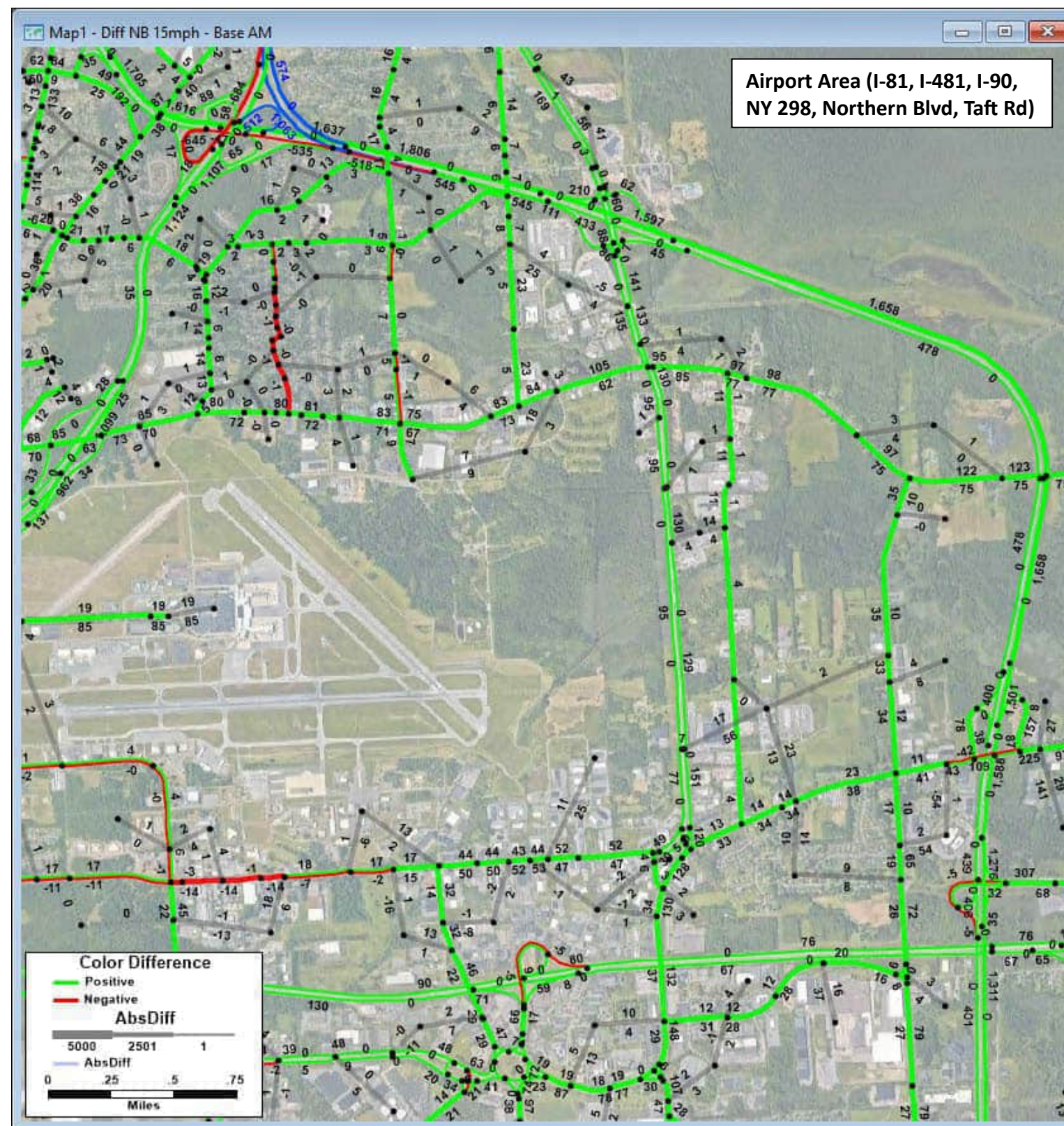




**2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes**  
No Build: All future land use and anticipated transportation projects but no Scenario C network changes  
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**2040 Scenario C v2 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes**  
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 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)





**2040 No Build AM Volumes - 2020 Existing Conditions AM Volumes = Change in AM Volumes**  
No Build: All future land use and anticipated transportation projects but no Scenario C network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

**2040 Scenario C v2 AM Volumes - 2040 No Build AM Volumes = Change in AM Volumes**  
Build: All future land use and anticipated transportation projects with Scenario C network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



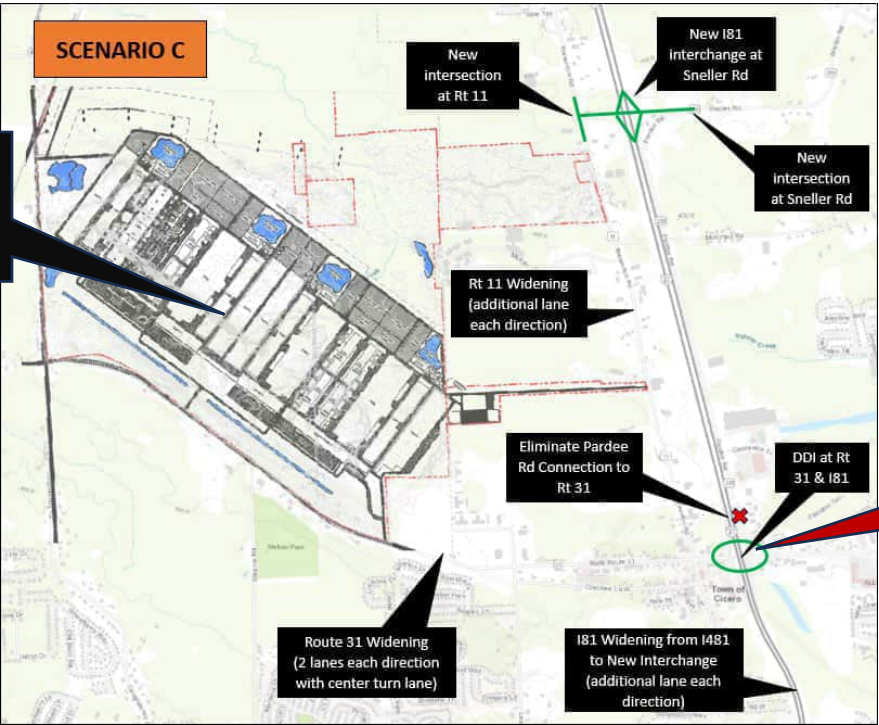
SMTC Travel Demand Model Results: **Scenario C v2** (New I81 Interchange & Reduced Capacity SPUI @ Rt31 & I81) – **PM PEAK HOUR CHANGE IN VOLUMES**

The graphic to the right shows the general assumptions for **Scenario C v2** →

Notes:

- All 2040 scenarios include projected future land use growth (including Micron)
- **RED** callouts note the revisions made to Scenario C

Equal travel time for  
all Micron TAZ  
centroid connectors



REDUCED CAPACITY  
SPUI instead of DDI

The graphic to the right is an example of what is included in this document →

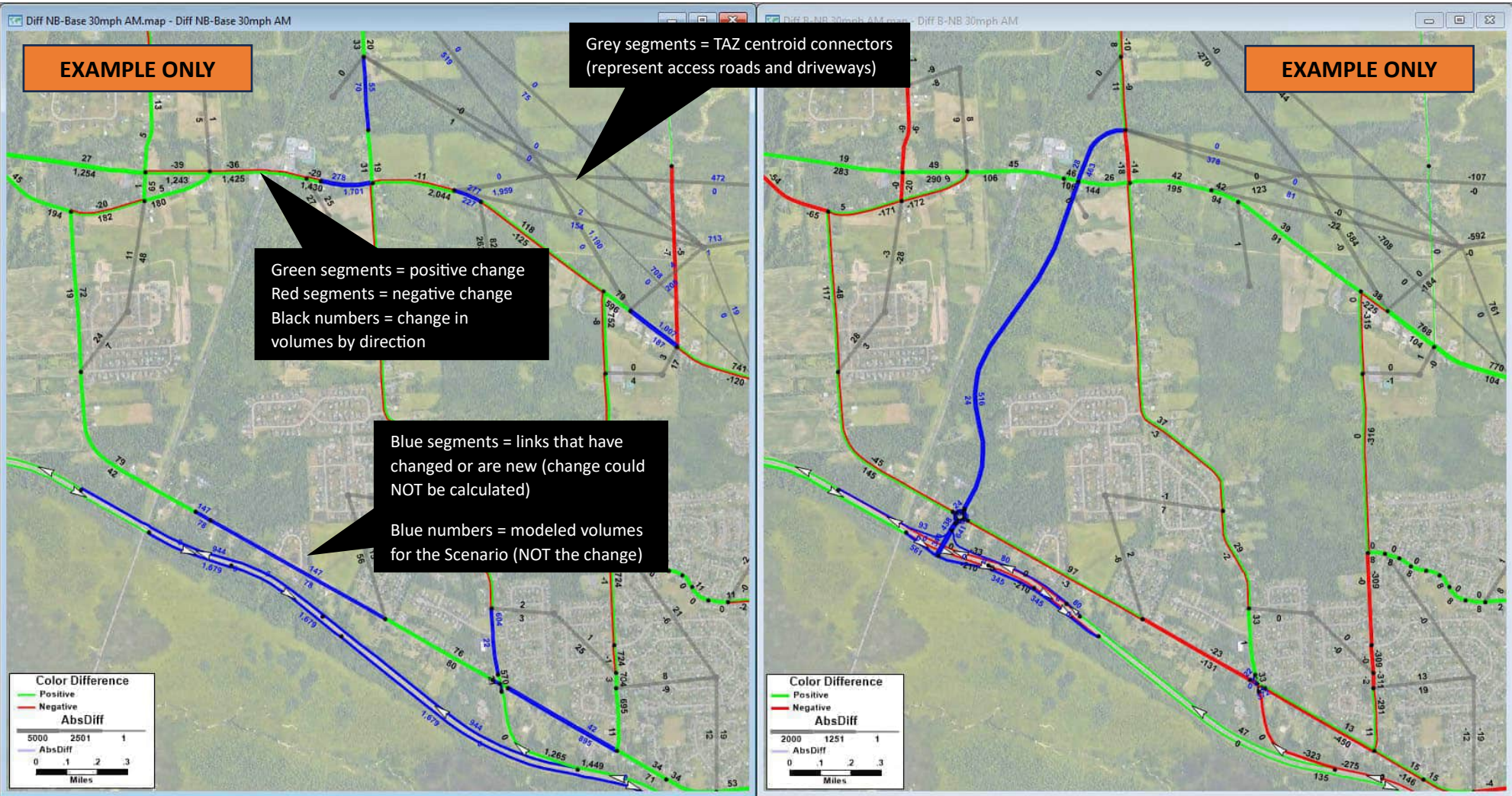
The map on the left displays the change in **PM** volumes between the 2020 existing conditions base model to the 2040 No Build (**2040 NB PM Volumes less 2020 PM volumes**). No Build in this case refers to no network improvements, the build future land use conditions are included (including Micron).

The map on the right displays the change in **PM** volumes between the 2040 No Build to the 2040 Scenario “X” Build (**2040 Scenario “X” Build PM Volumes less 2040 NB PM volumes**).

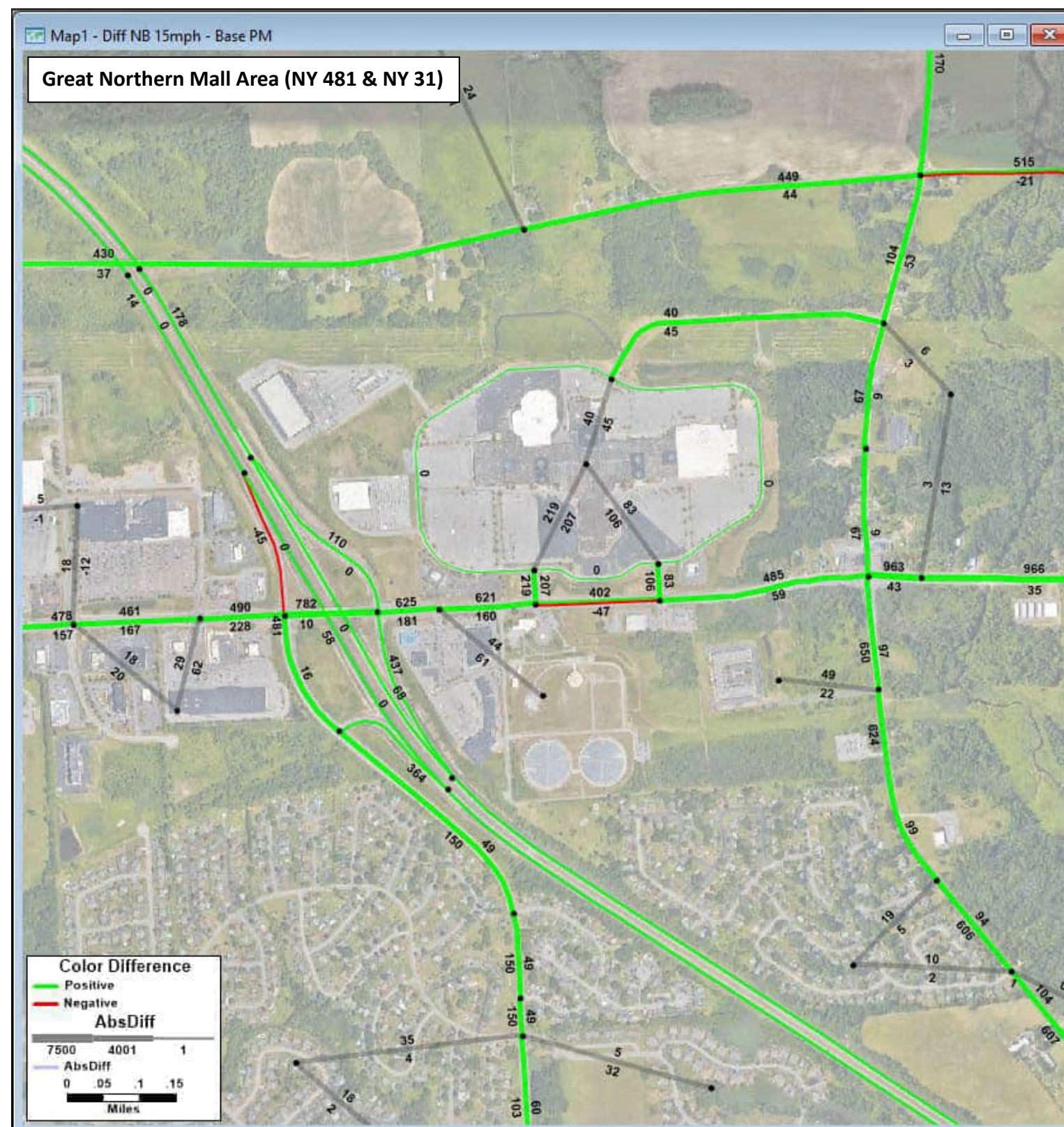
MAP NOTES:

- **Green** segments = positive change between identified scenarios
- **Red** segments = negative change between identified scenarios
- **Black numbers** = change in volumes by direction
- **Blue** segments = links that have changed or are new for that scenario therefore a change can **NOT** be calculated
- **Blue numbers** = modeled volume by direction on that segment for that scenario (change could NOT be calculated for that link)
- **Gray** segments = TAZ centroid connectors (general representation of access roads and driveways)

To get total future volume on a segment add up the numbers from both maps and then add that to existing traffic counts.



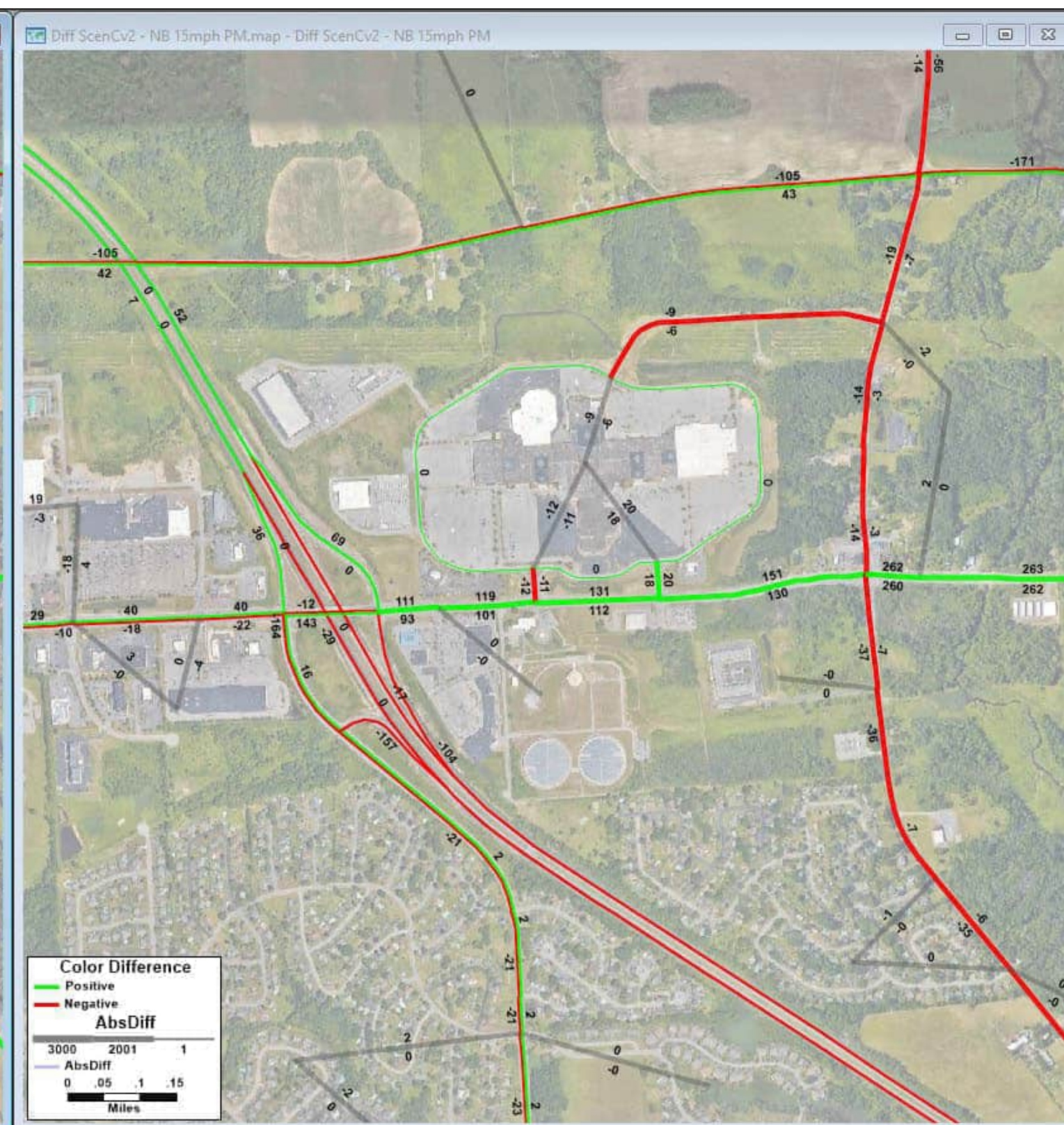




**2040 No Build PM Volumes - 2020 Existing Conditions PM Volumes = Change in PM Volumes**

No Build: All future land use and anticipated transportation projects but no Scenario C network changes

Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

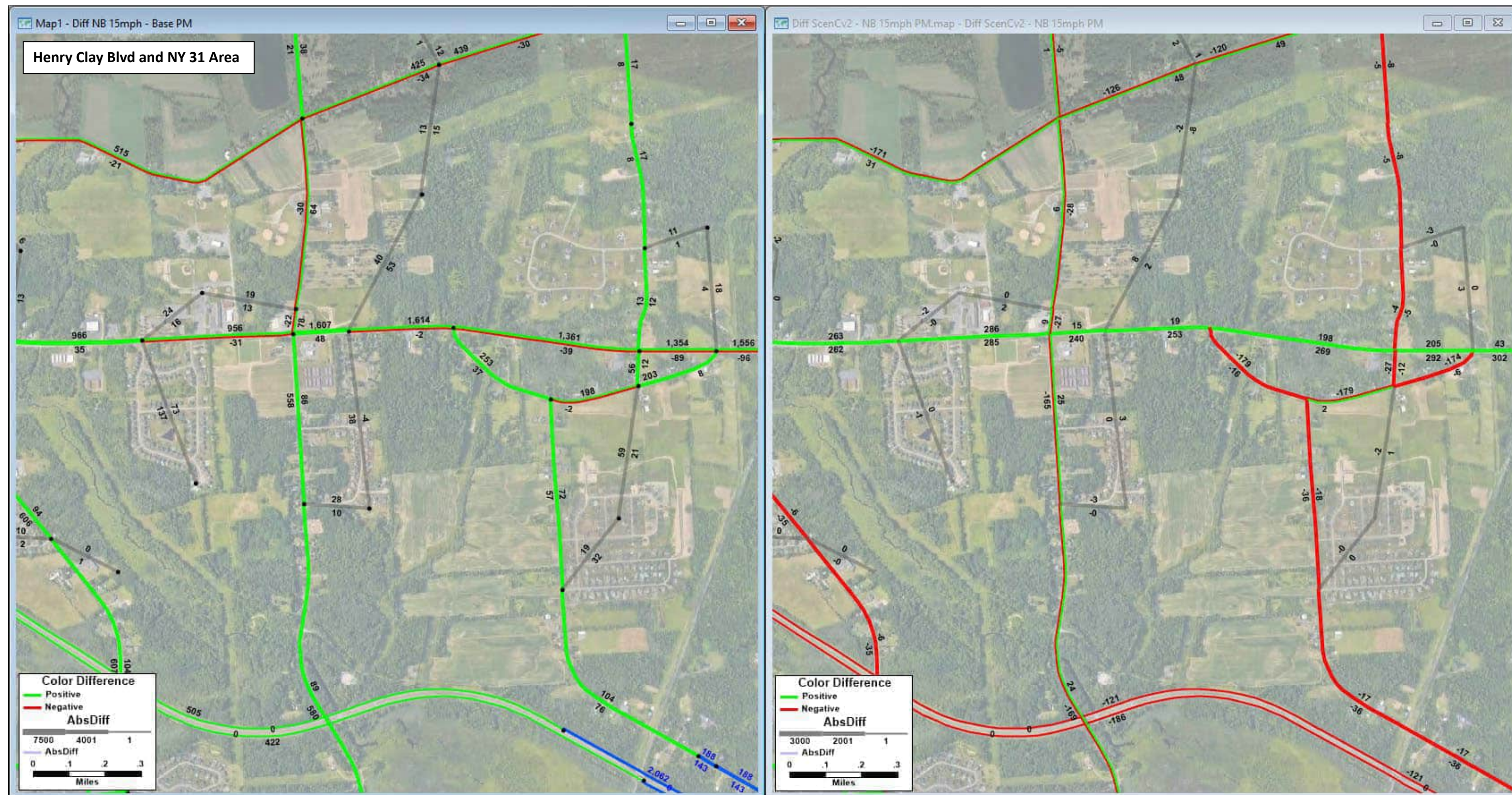


**2040 Scenario C v2 PM Volumes - 2040 No Build PM Volumes = Change in PM Volumes**

Build: All future land use and anticipated transportation projects with Scenario C network changes

Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

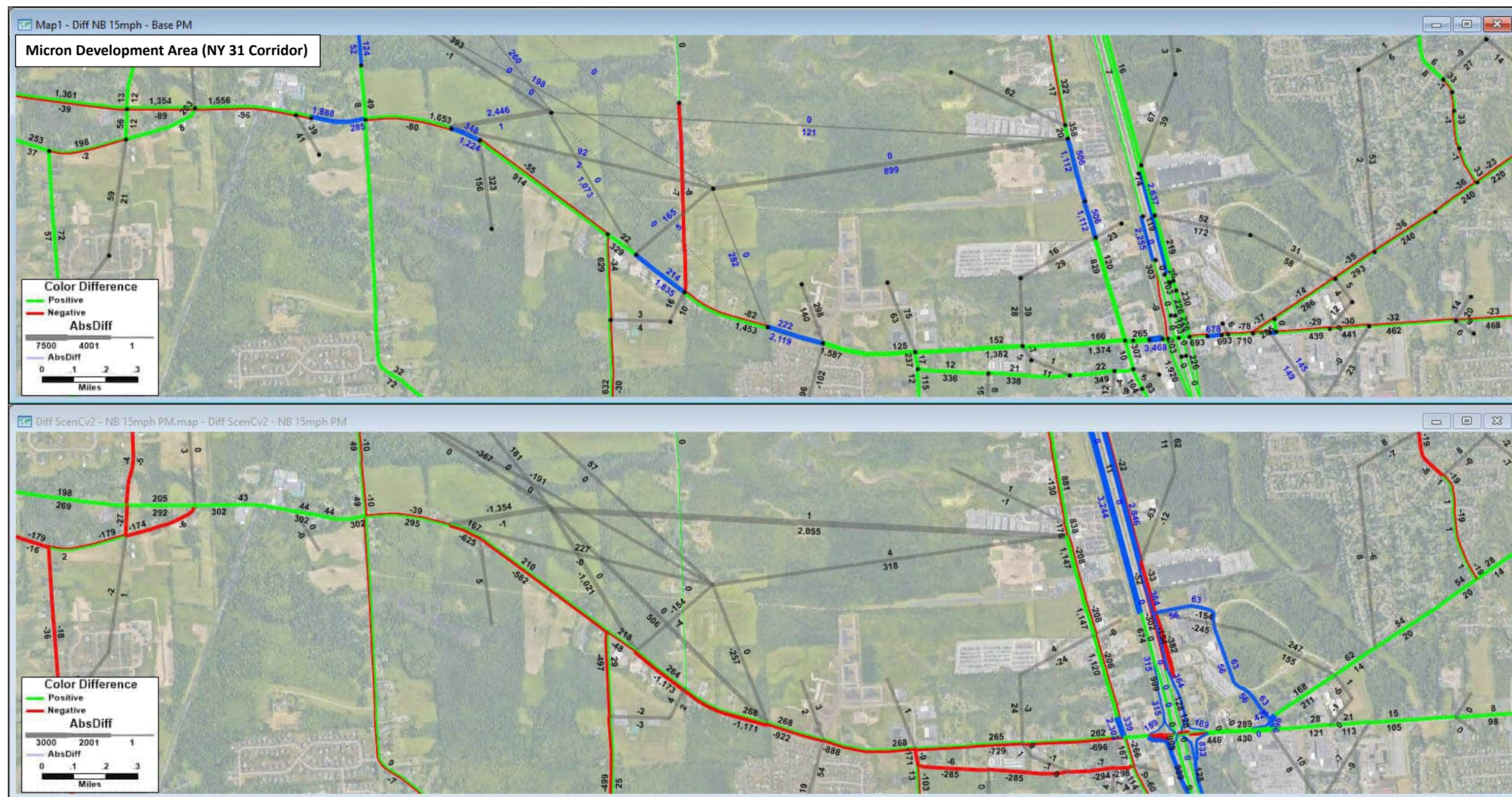




**2040 No Build PM Volumes - 2020 Existing Conditions PM Volumes = Change in PM Volumes**  
No Build: All future land use and anticipated transportation projects but no Scenario C network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

**2040 Scenario C v2 PM Volumes - 2040 No Build PM Volumes = Change in PM Volumes**  
Build: All future land use and anticipated transportation projects with Scenario C network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

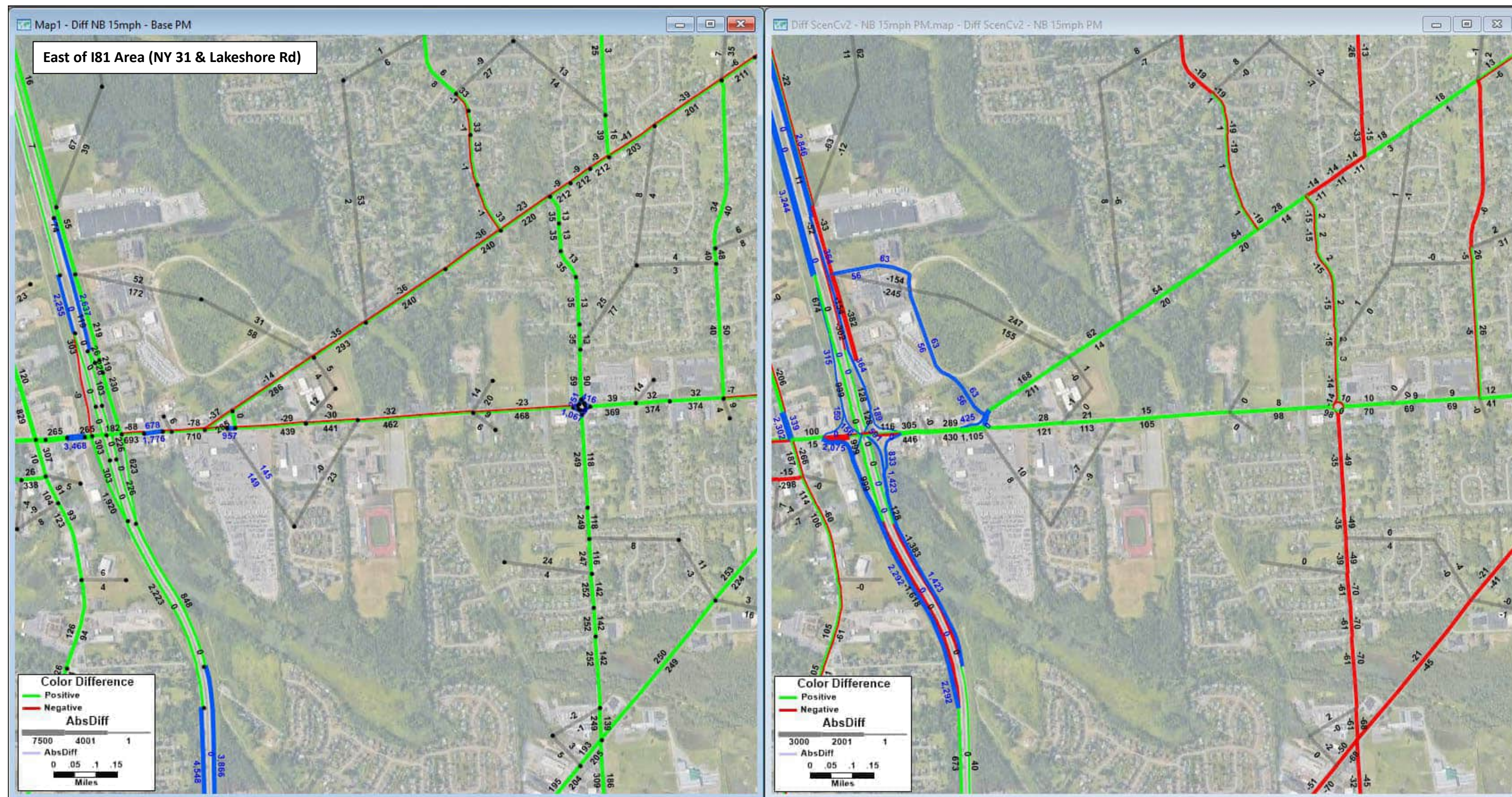




**(TOP MAP) 2040 No Build PM Volumes - 2020 Existing Conditions PM Volumes = Change in PM Volumes**  
No Build: All future land use and anticipated transportation projects but no Scenario C network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

**(Bottom MAP) 2040 Scenario C v2 PM Volumes - 2040 No Build PM Volumes = Change in PM Volumes**  
Build: All future land use and anticipated transportation projects with Scenario C network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

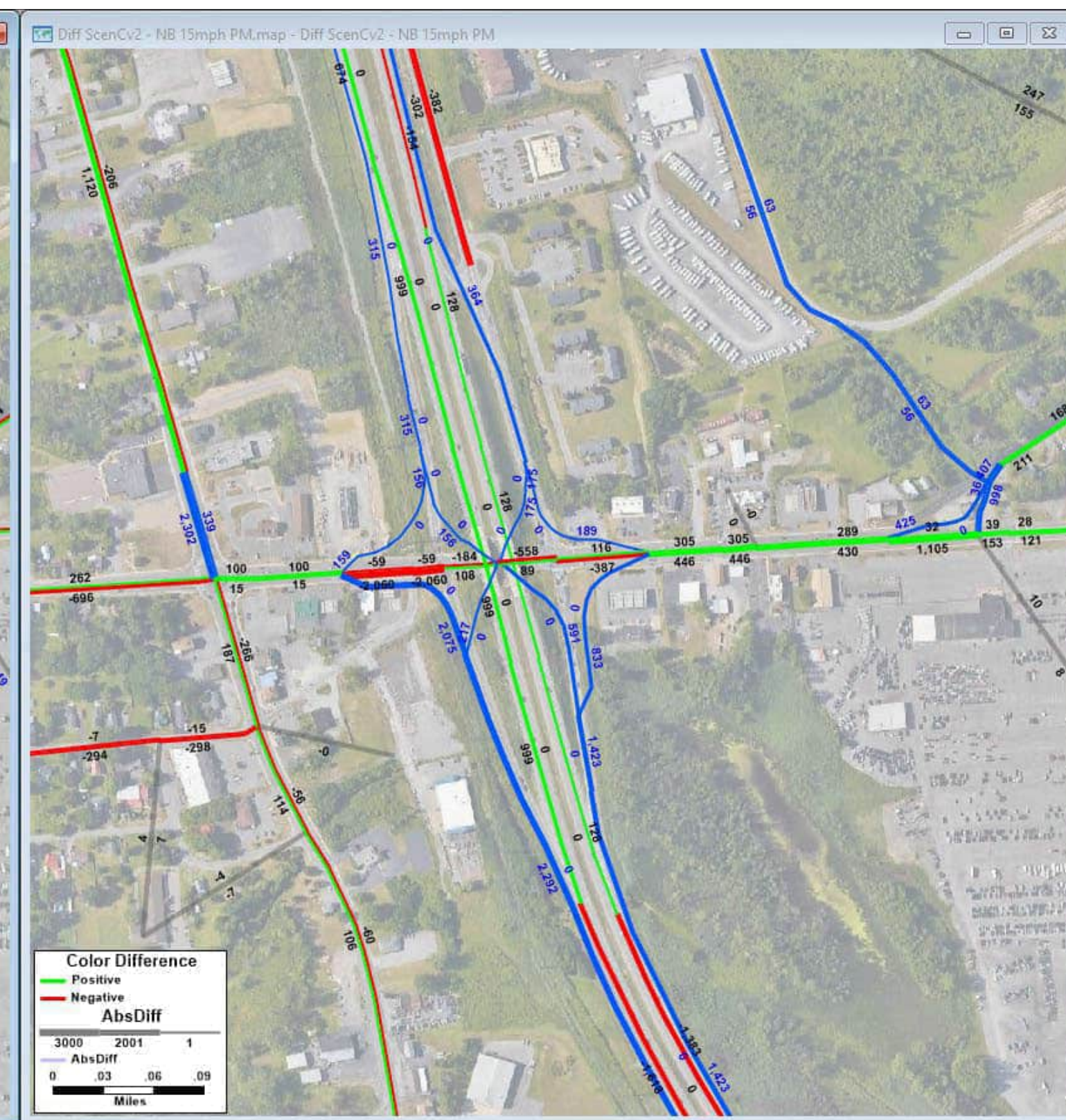
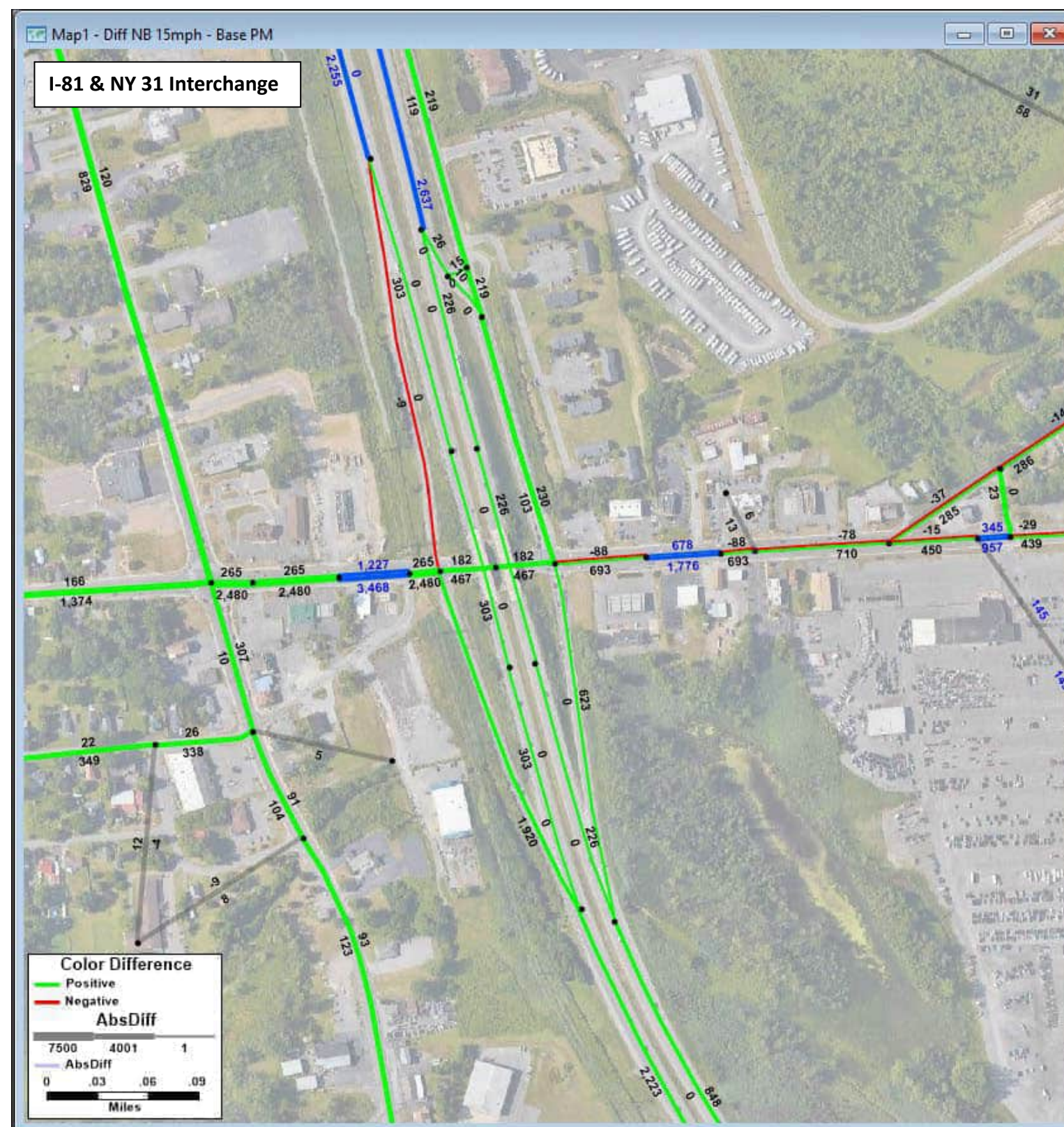




**2040 No Build PM Volumes - 2020 Existing Conditions PM Volumes = Change in PM Volumes**  
No Build: All future land use and anticipated transportation projects but no Scenario C network changes  
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**2040 Scenario C v2 PM Volumes - 2040 No Build PM Volumes = Change in PM Volumes**  
Build: All future land use and anticipated transportation projects with Scenario C network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

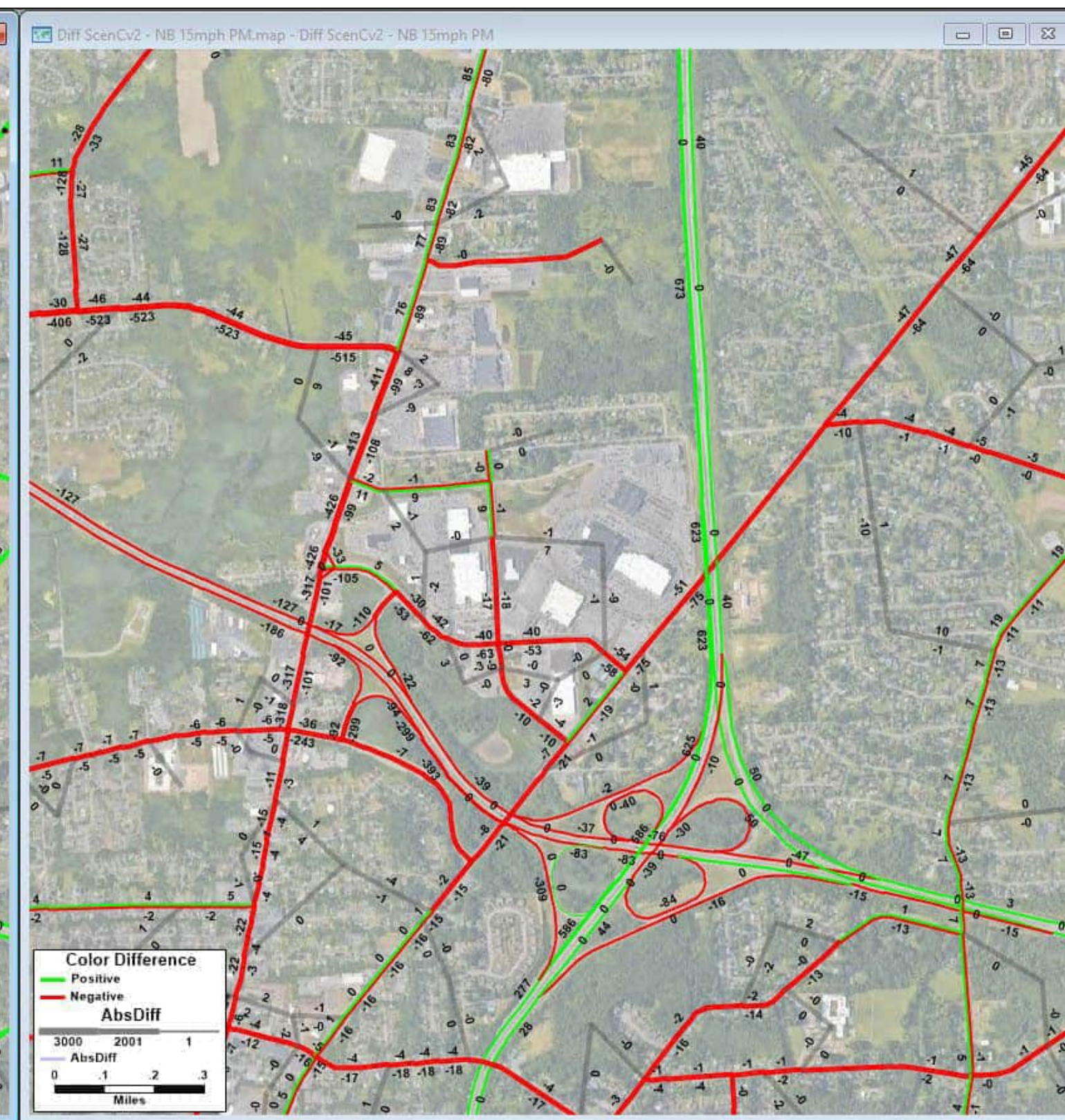
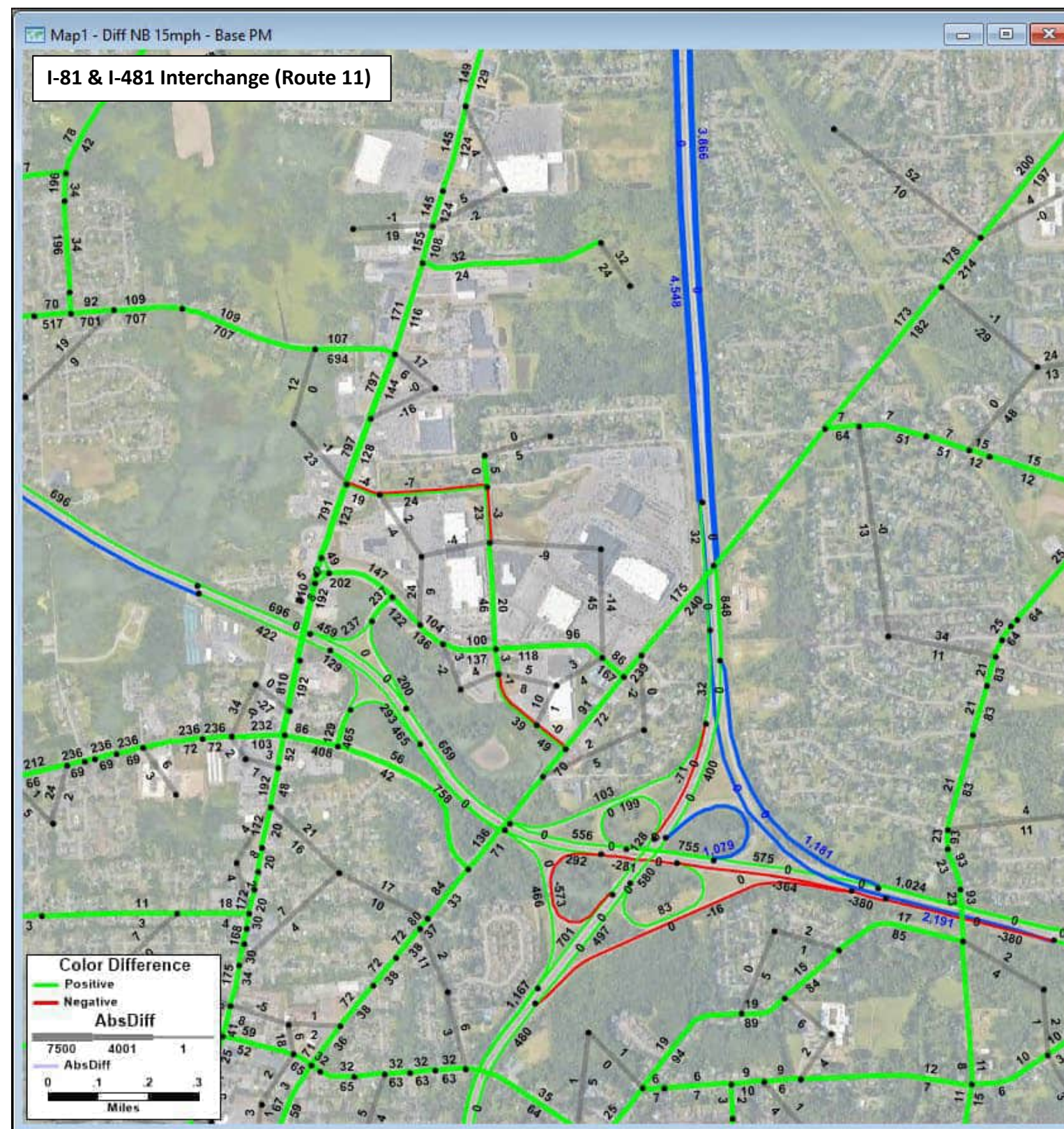




**2040 No Build PM Volumes - 2020 Existing Conditions PM Volumes = Change in PM Volumes**  
No Build: All future land use and anticipated transportation projects but no Scenario C network changes  
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**2040 Scenario C v2 PM Volumes - 2040 No Build PM Volumes = Change in PM Volumes**  
Build: All future land use and anticipated transportation projects with Scenario C network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)

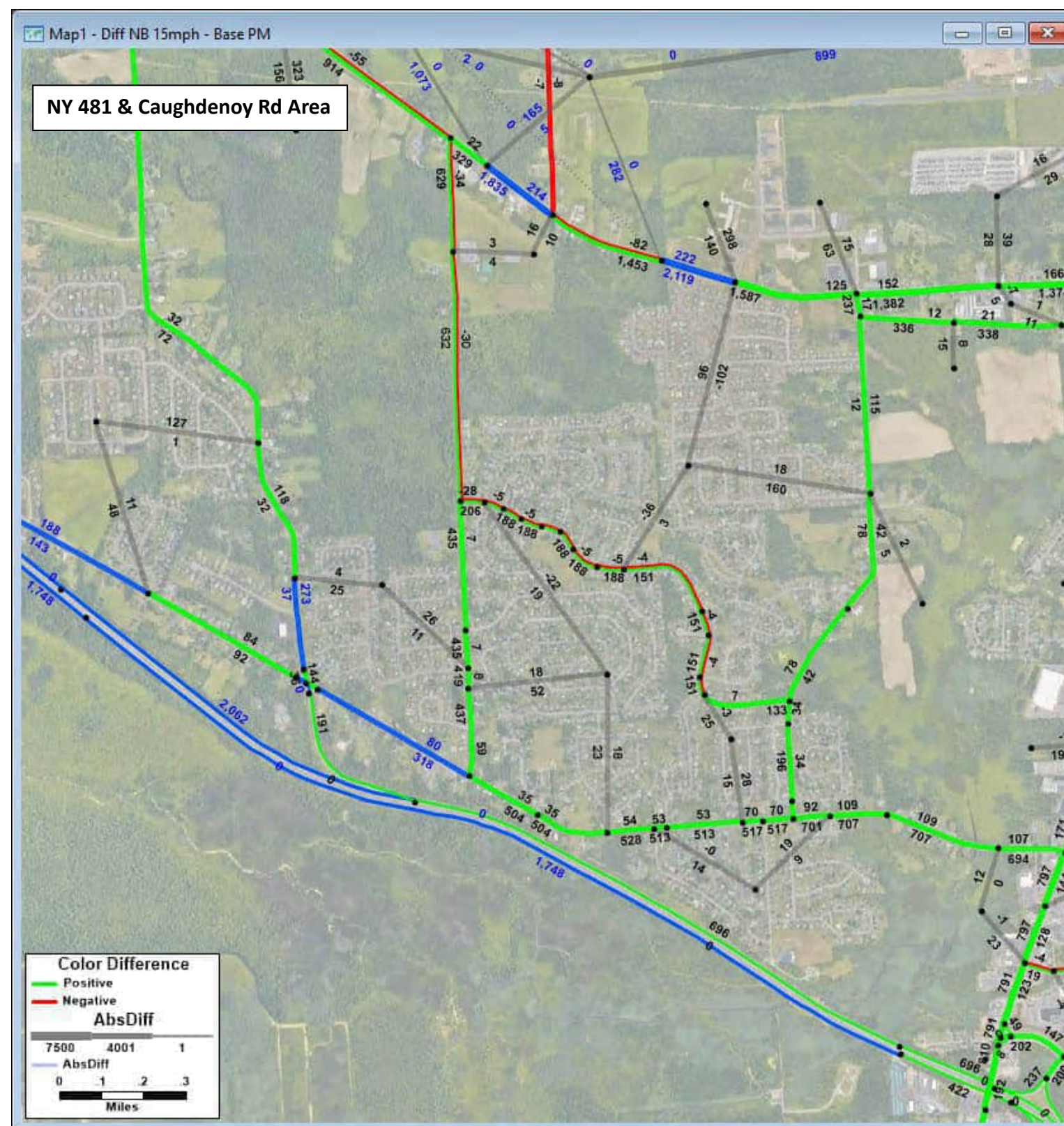




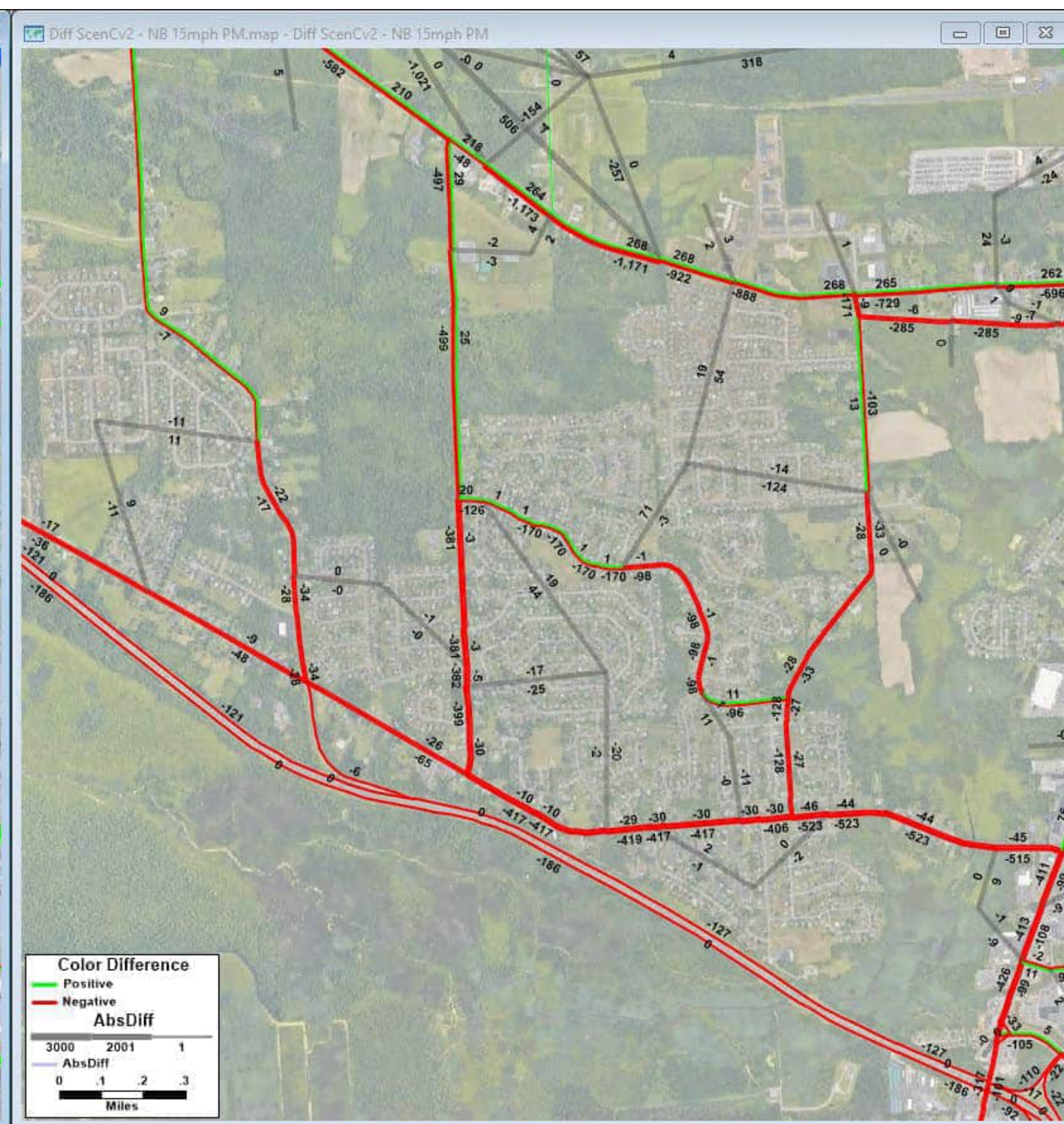
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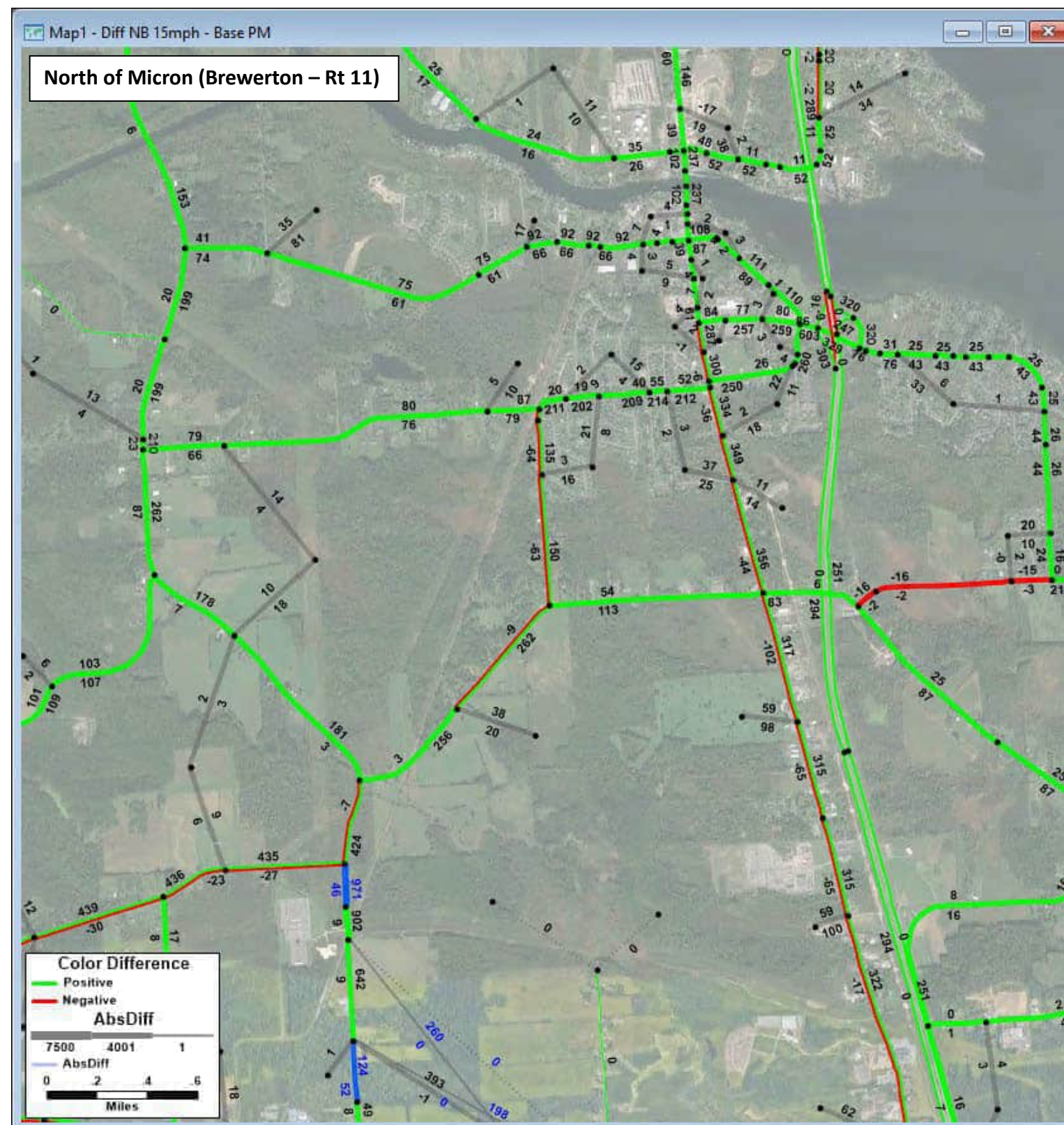


**2040 No Build PM Volumes - 2020 Existing Conditions PM Volumes = Change in PM Volumes**  
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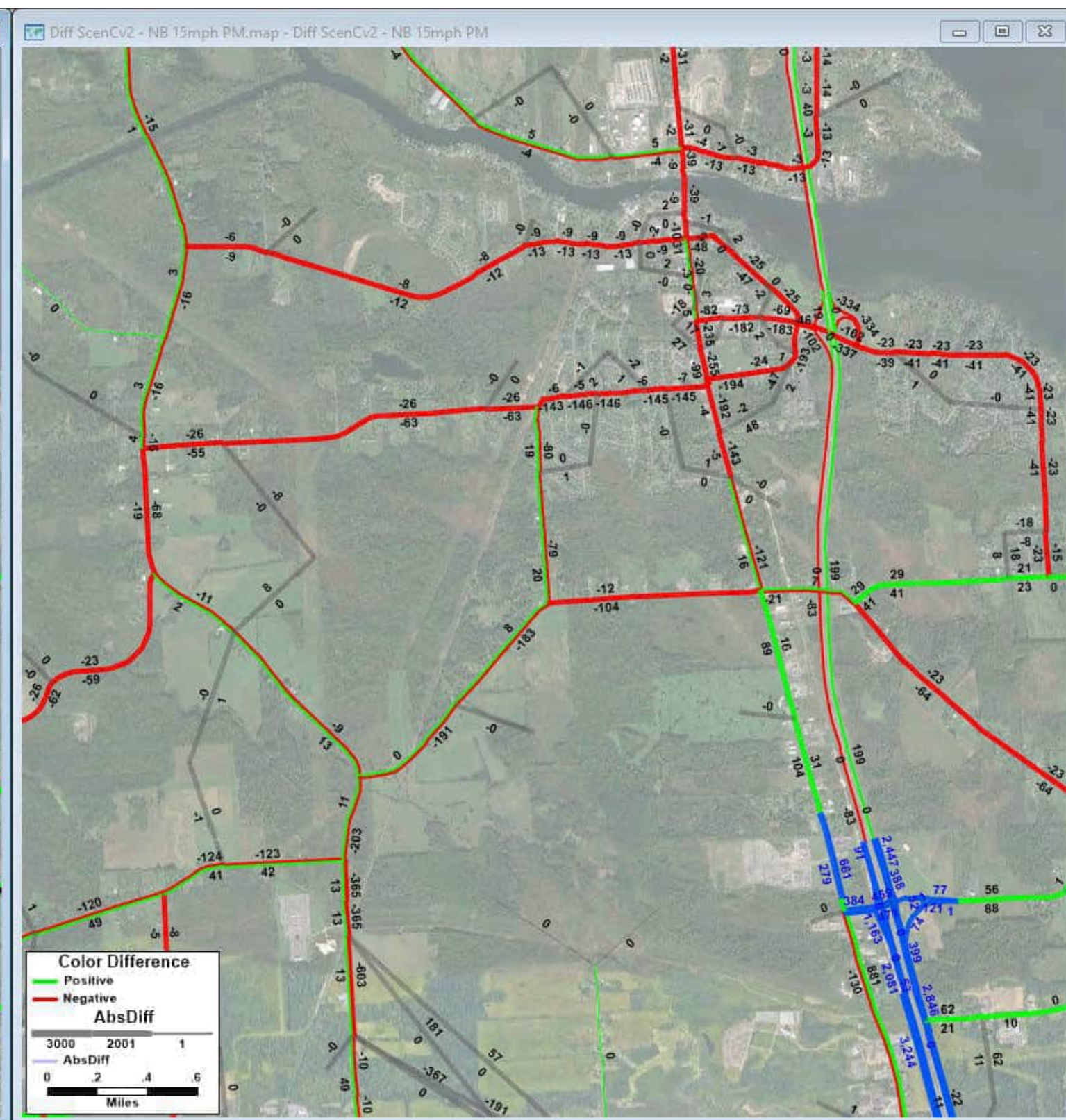


**2040 Scenario C v2 PM Volumes - 2040 No Build PM Volumes = Change in PM Volumes**  
Build: All future land use and anticipated transportation projects with Scenario C network changes  
 Blue segments: links in the model that changed or are new; Blue numbers: volume for scenario (NOT change)



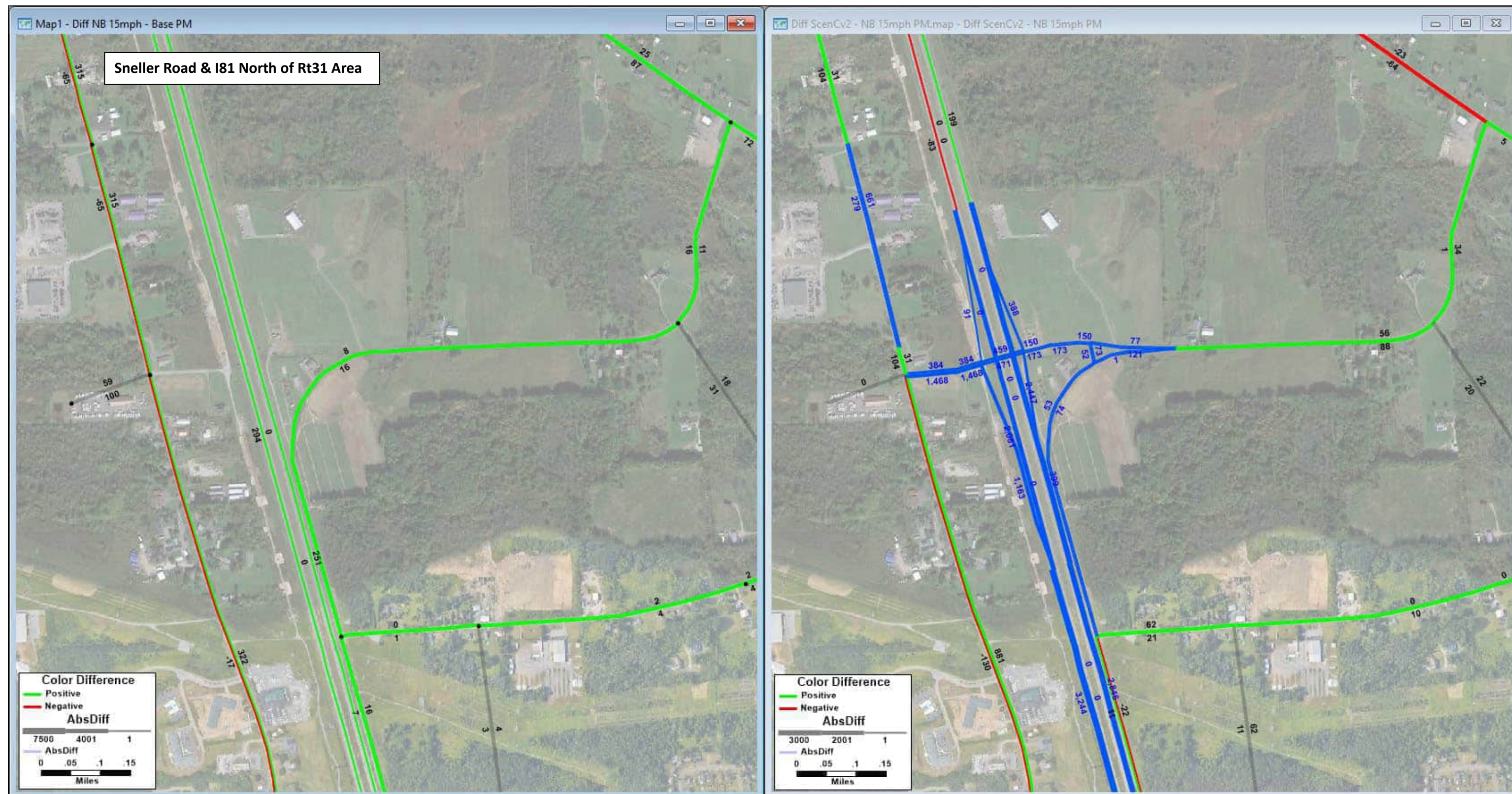


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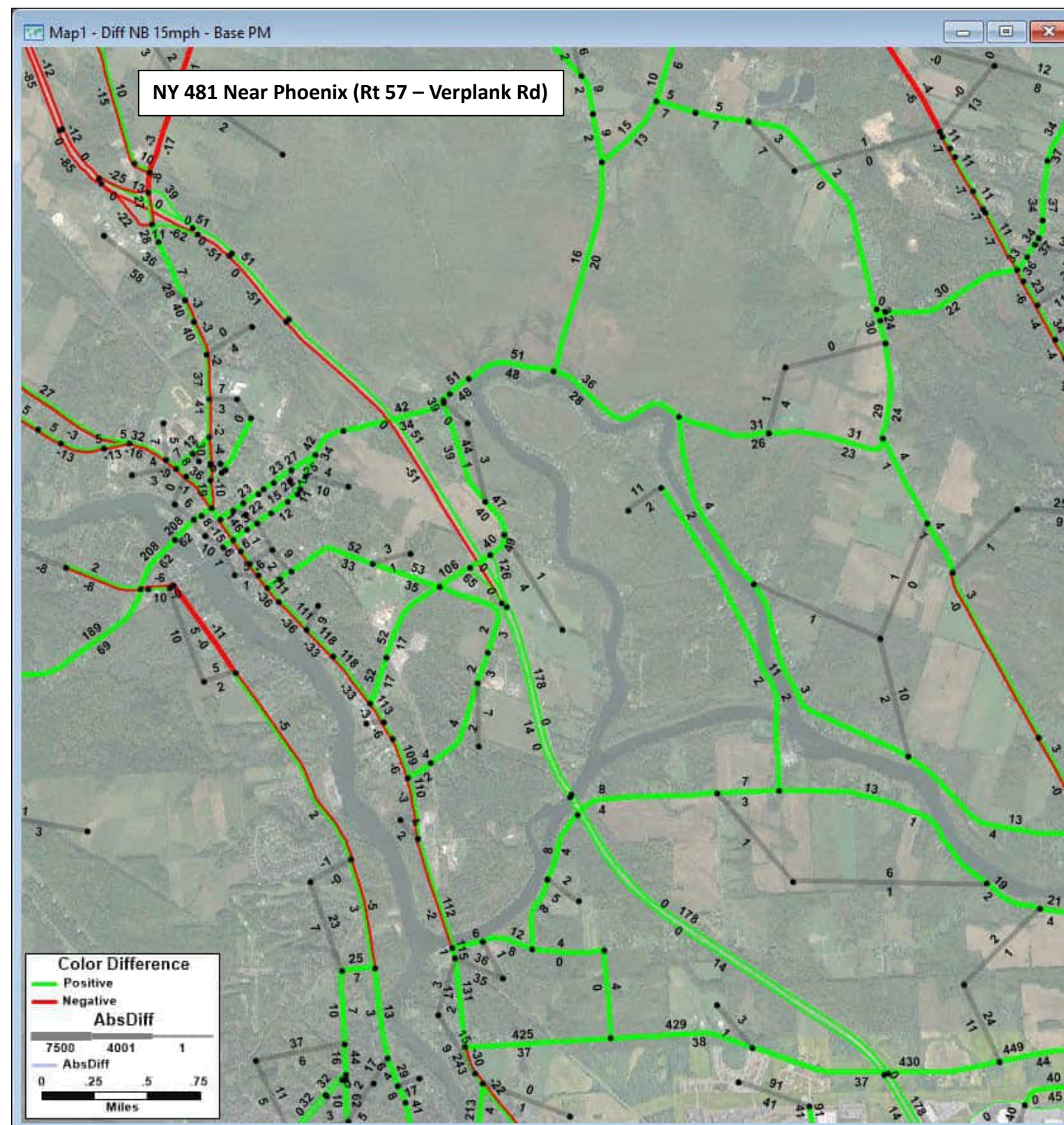




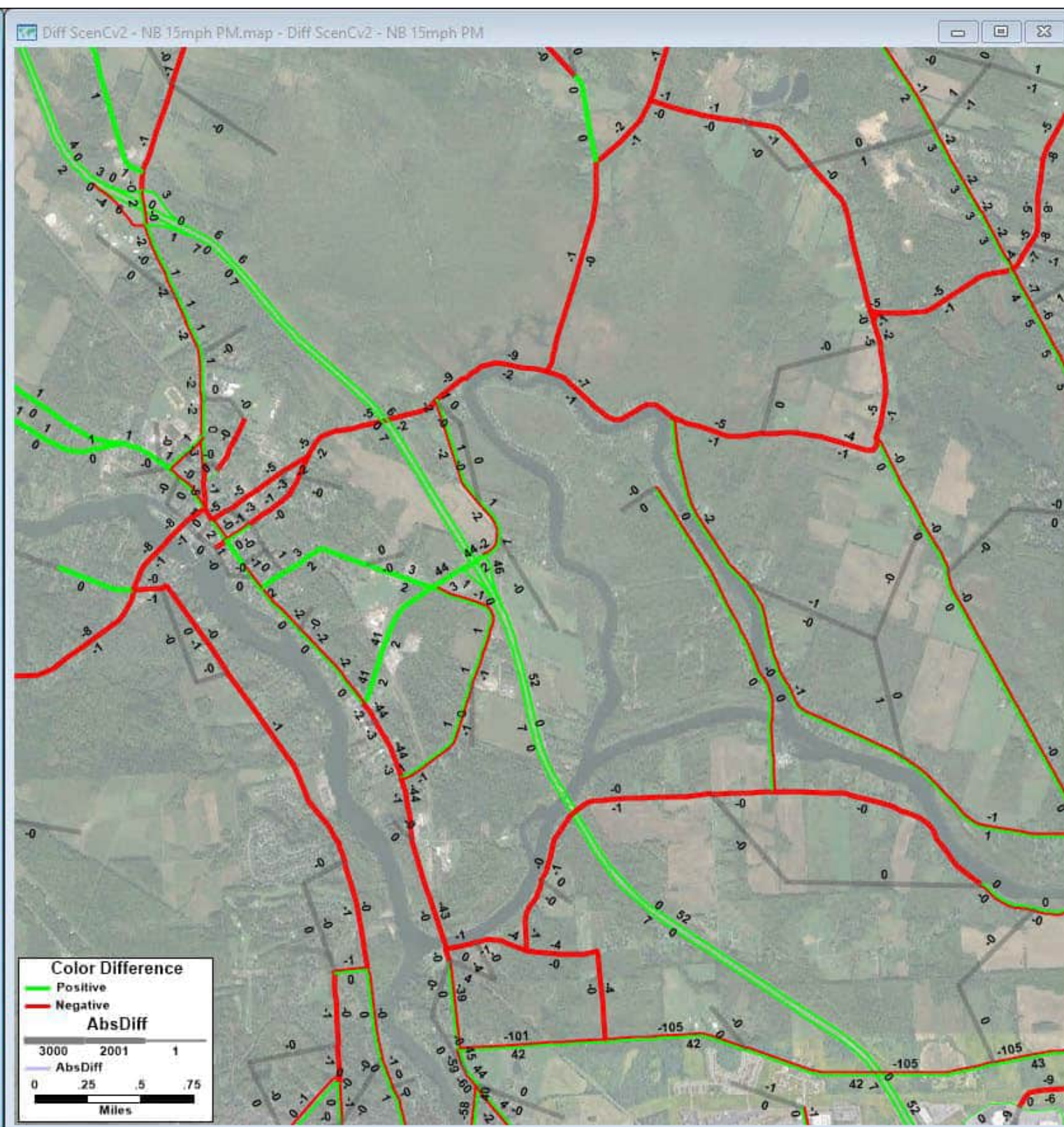
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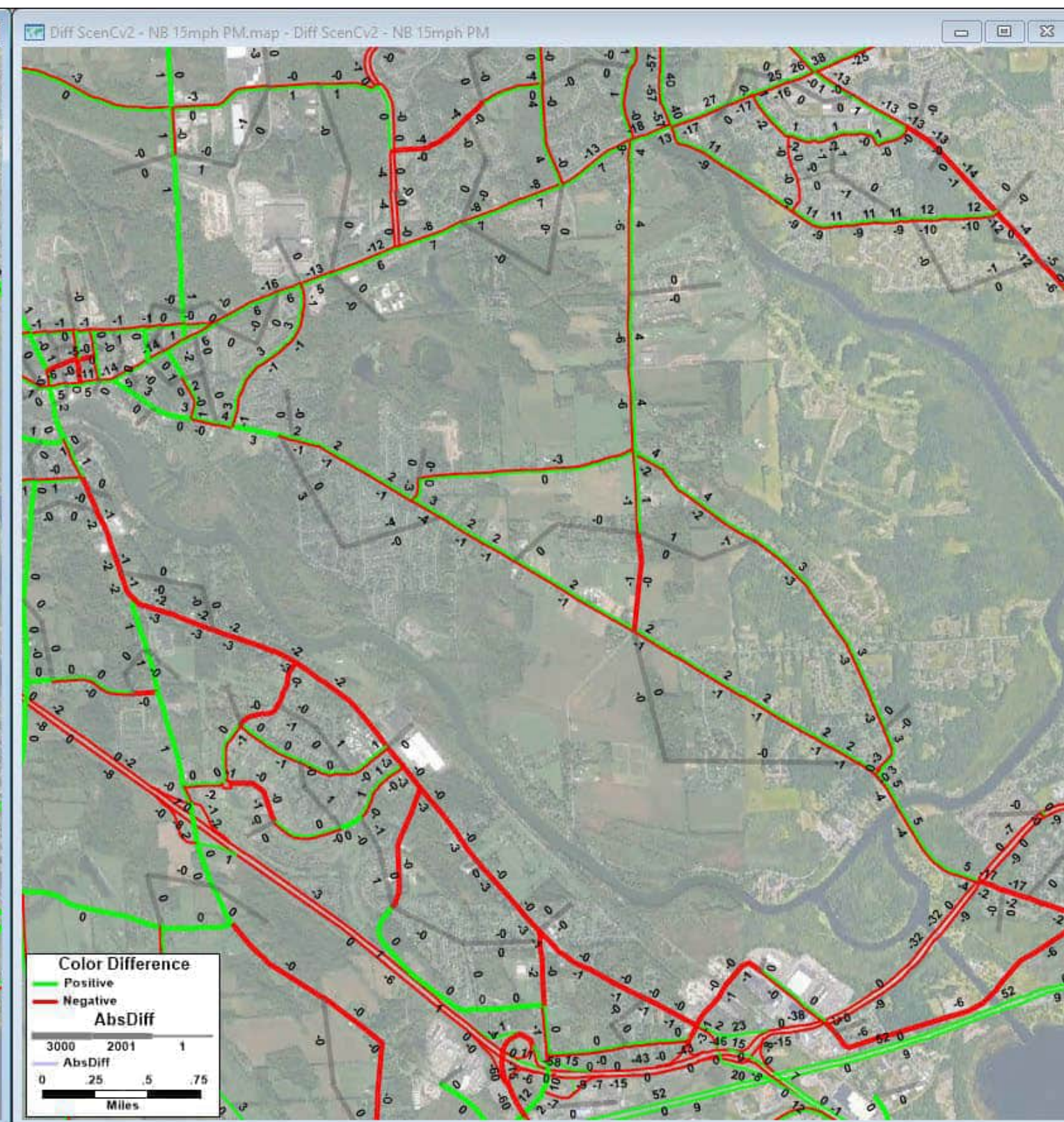
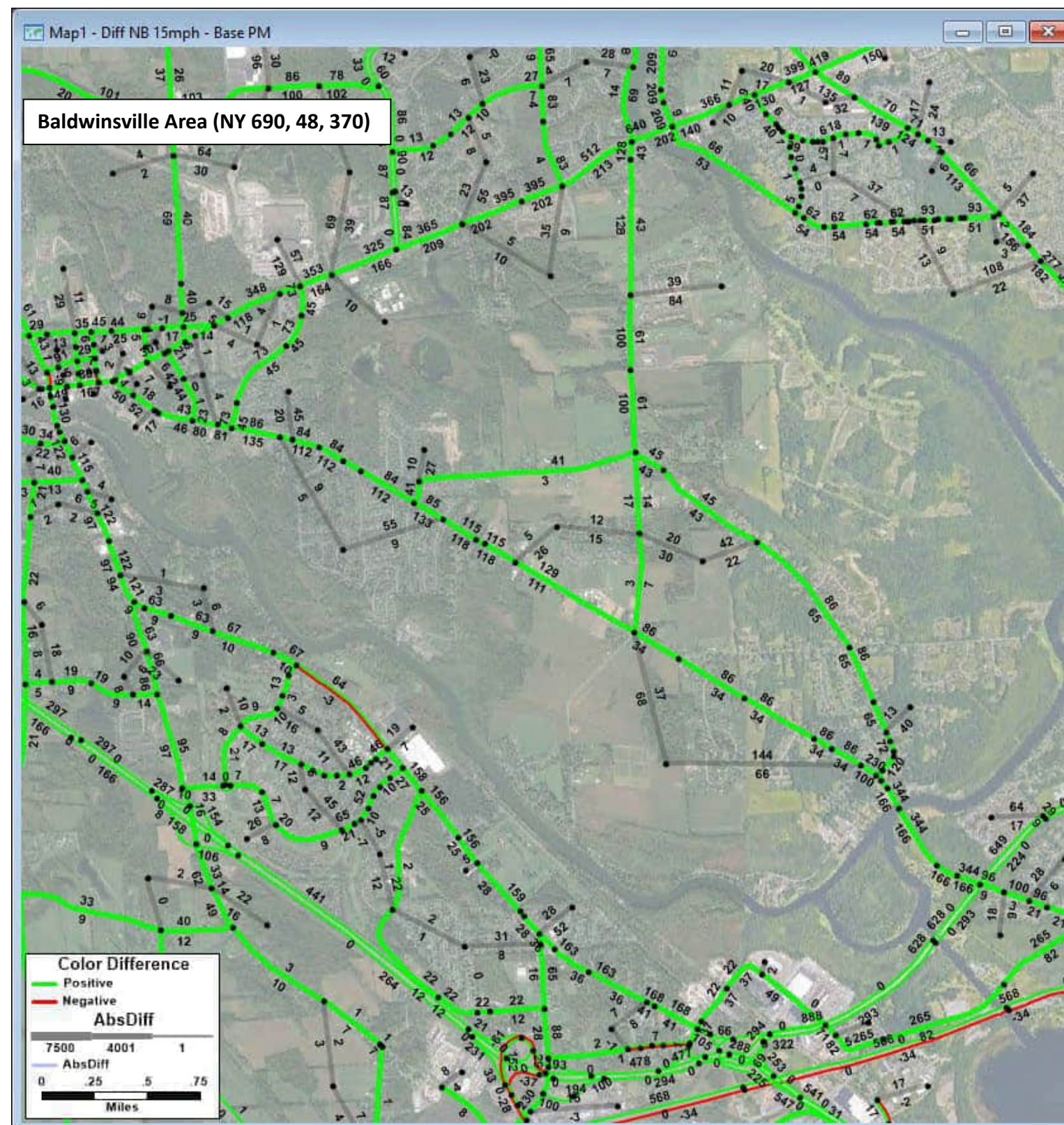


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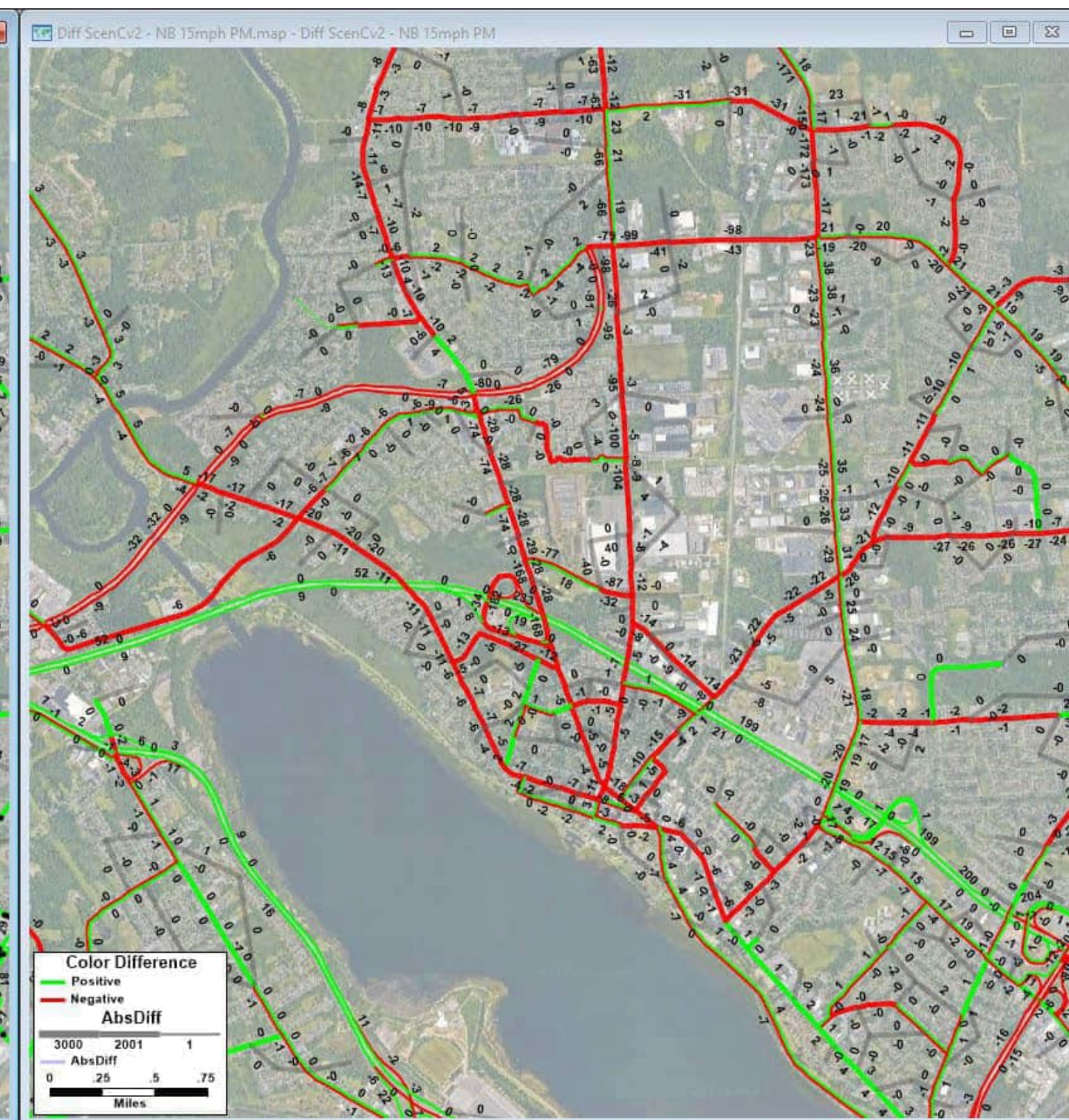
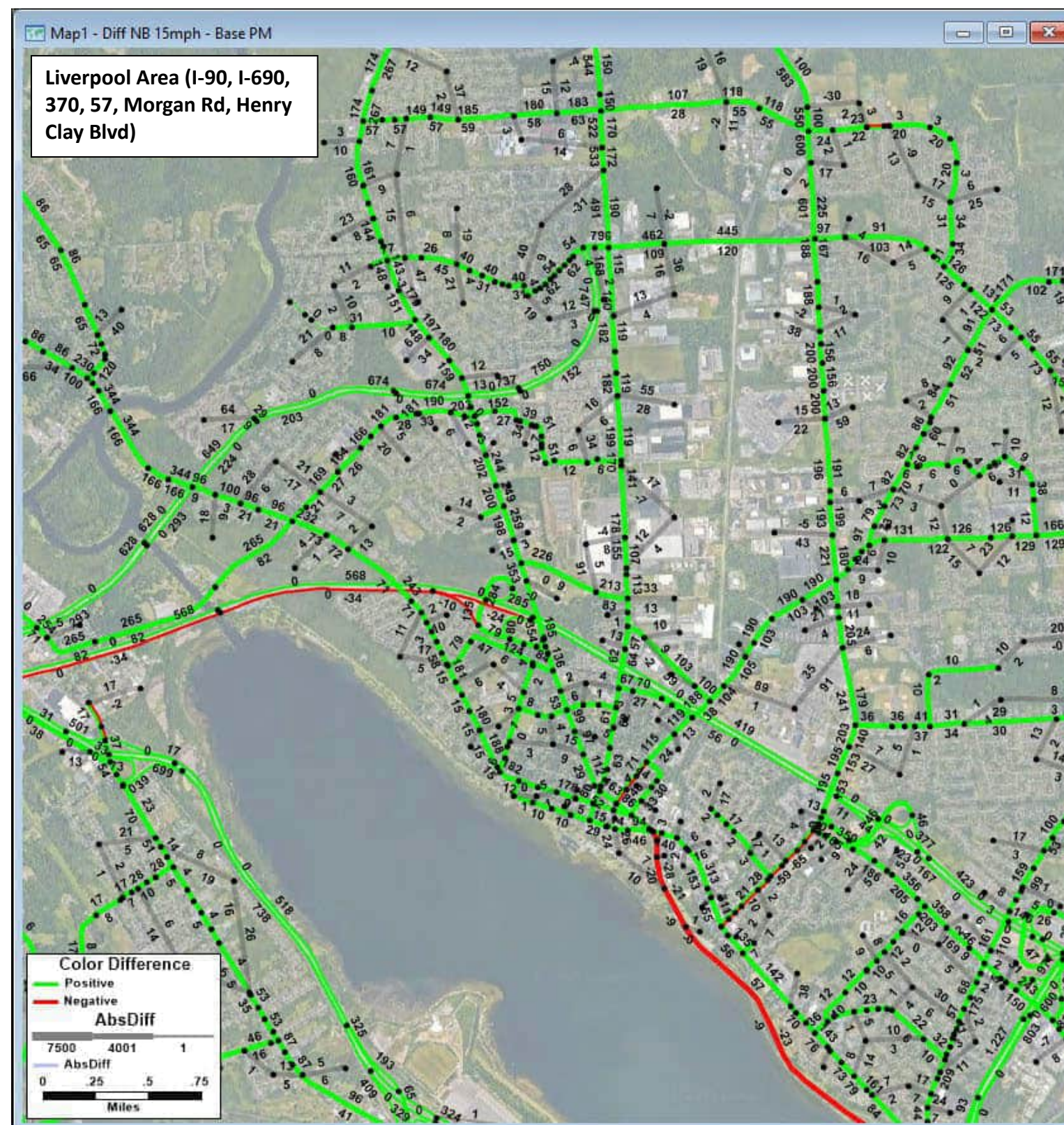




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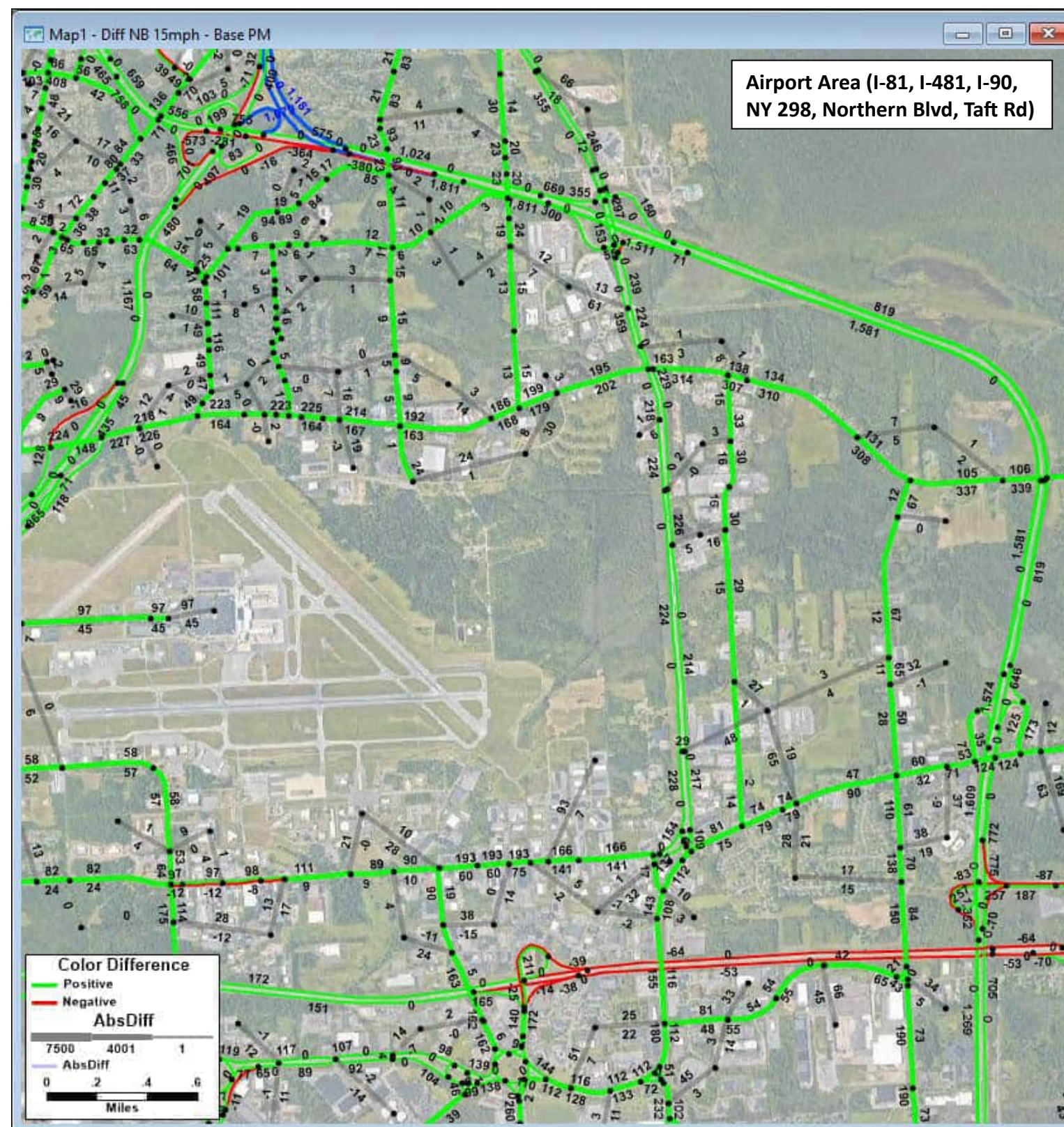




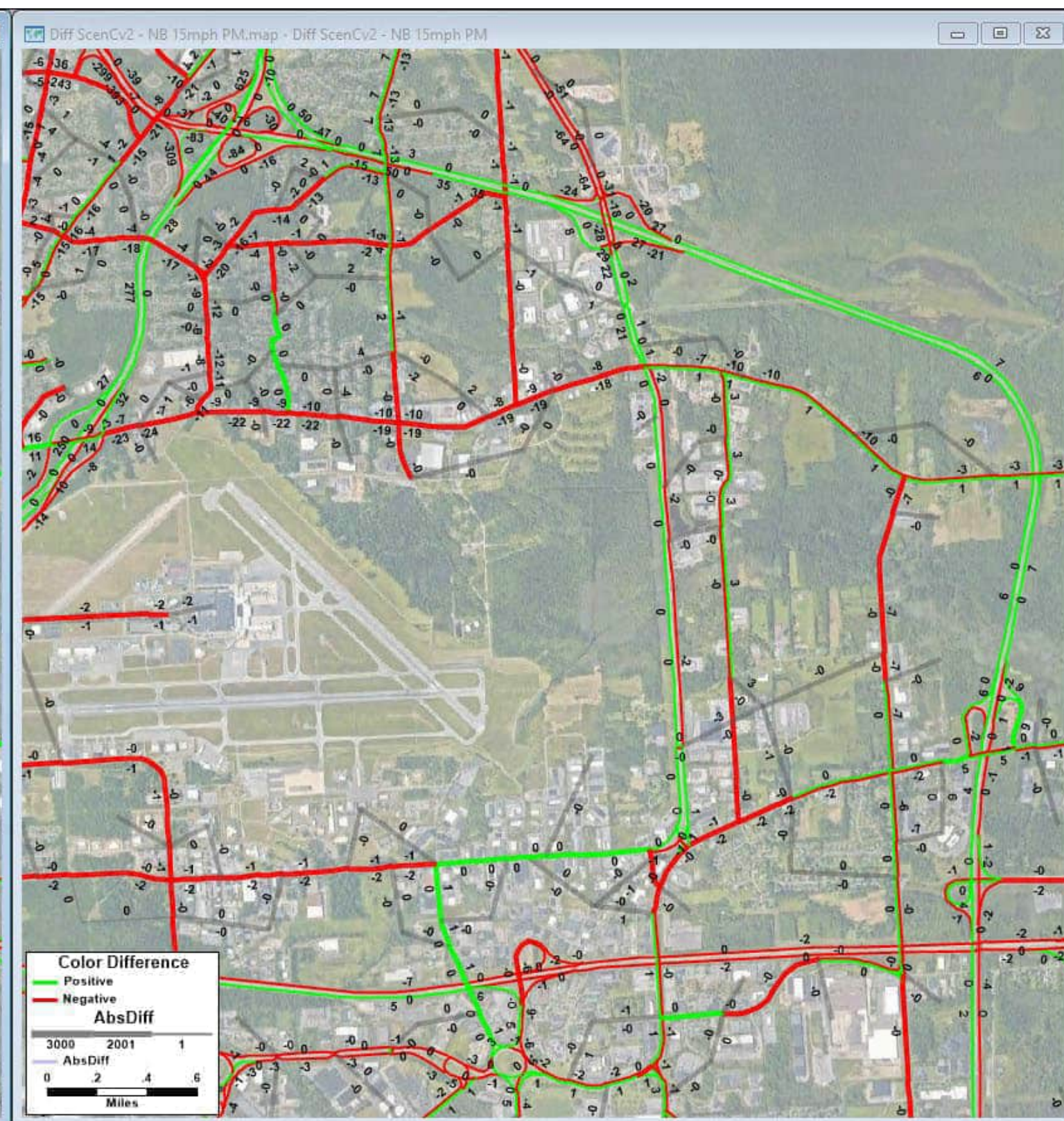
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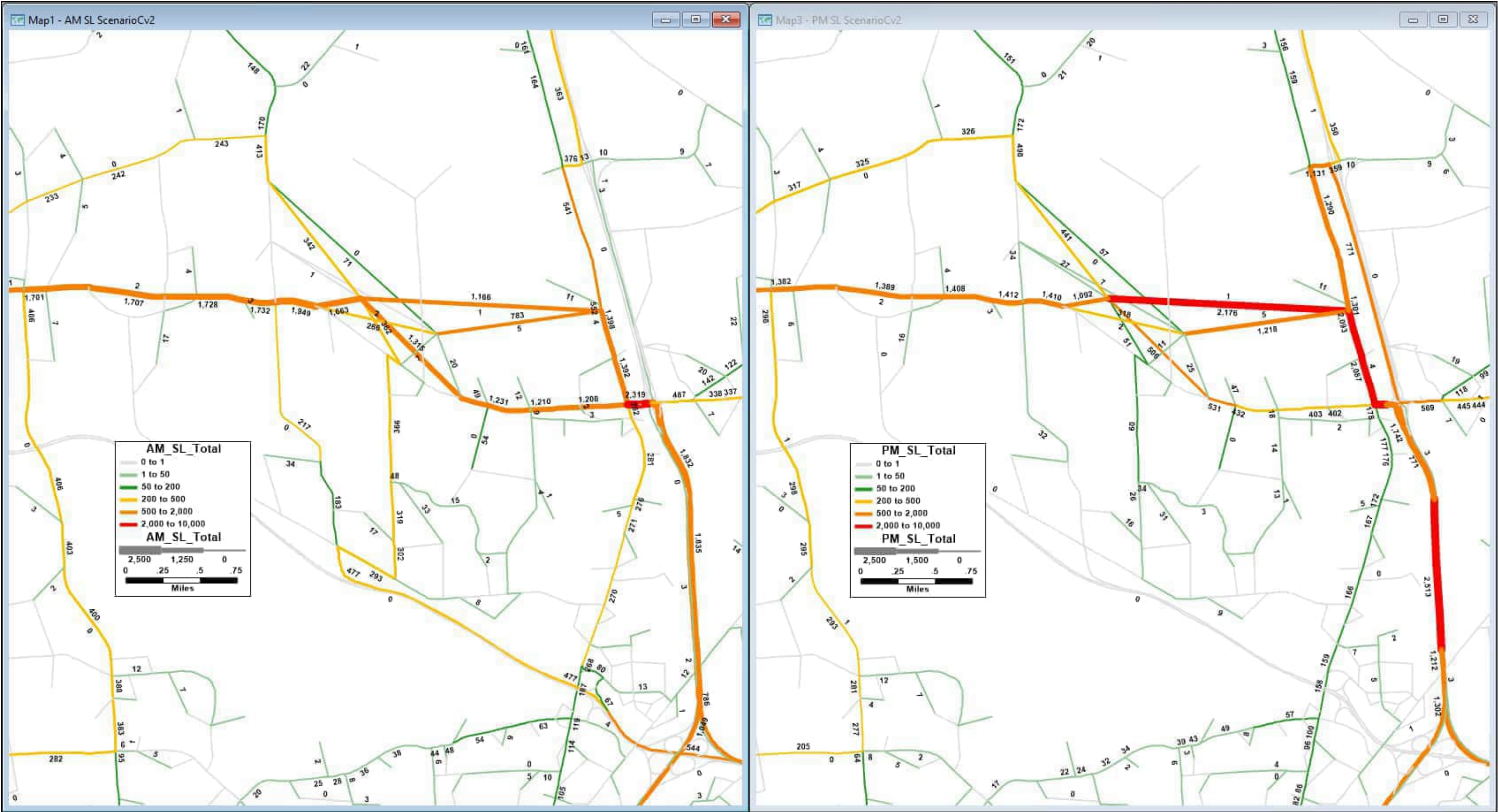


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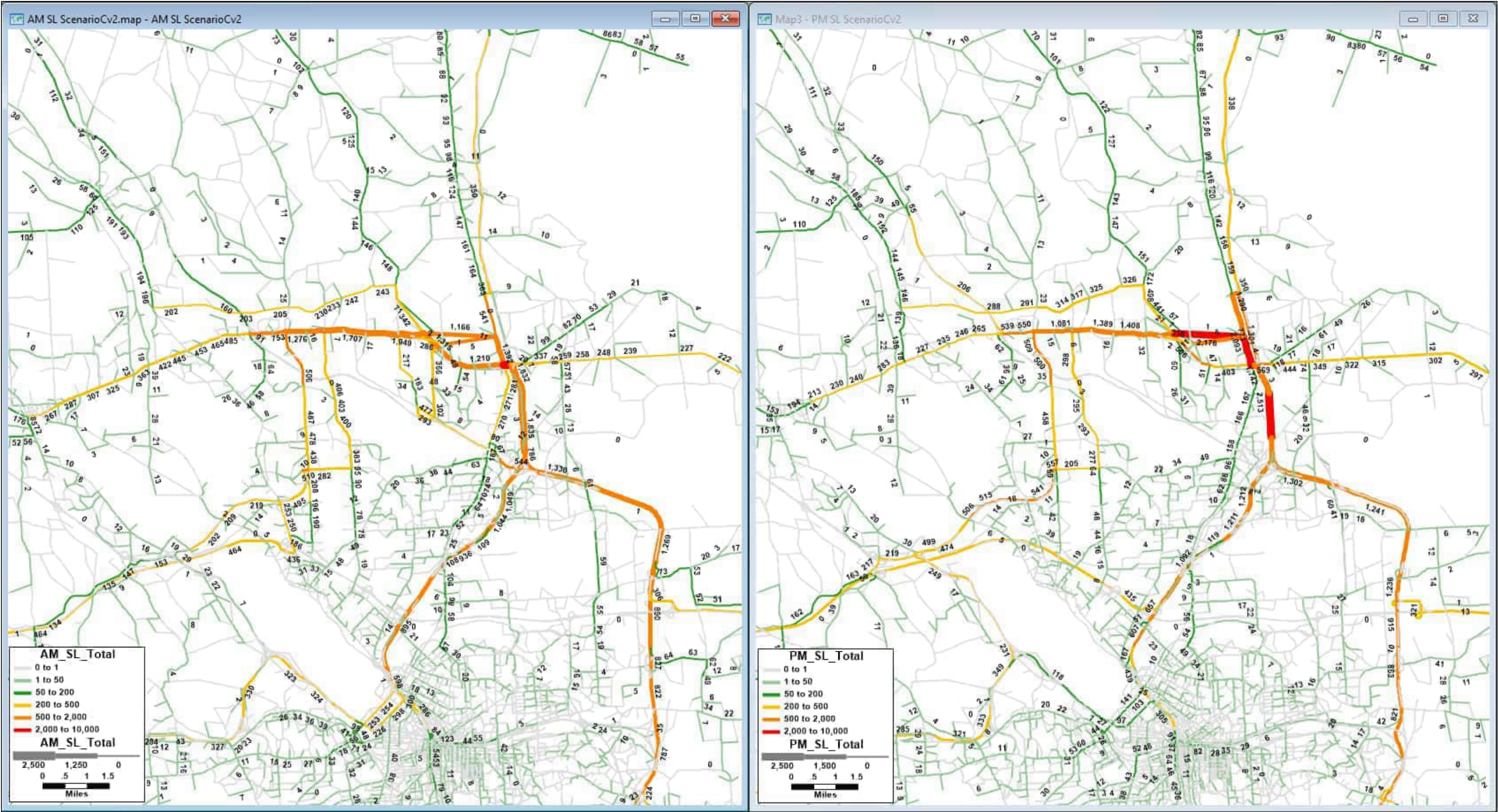


AM Peak Hour

PM Peak Hour



SMTC Travel Demand Model Results: **Scenario C v2** (New I81 Interchange & Reduced Capacity SPUI @ Rt31 & I81) – **MICRON CENTROID CONNECTOR AM & PM PEAK HOUR SELECT LINK ANALYSIS**

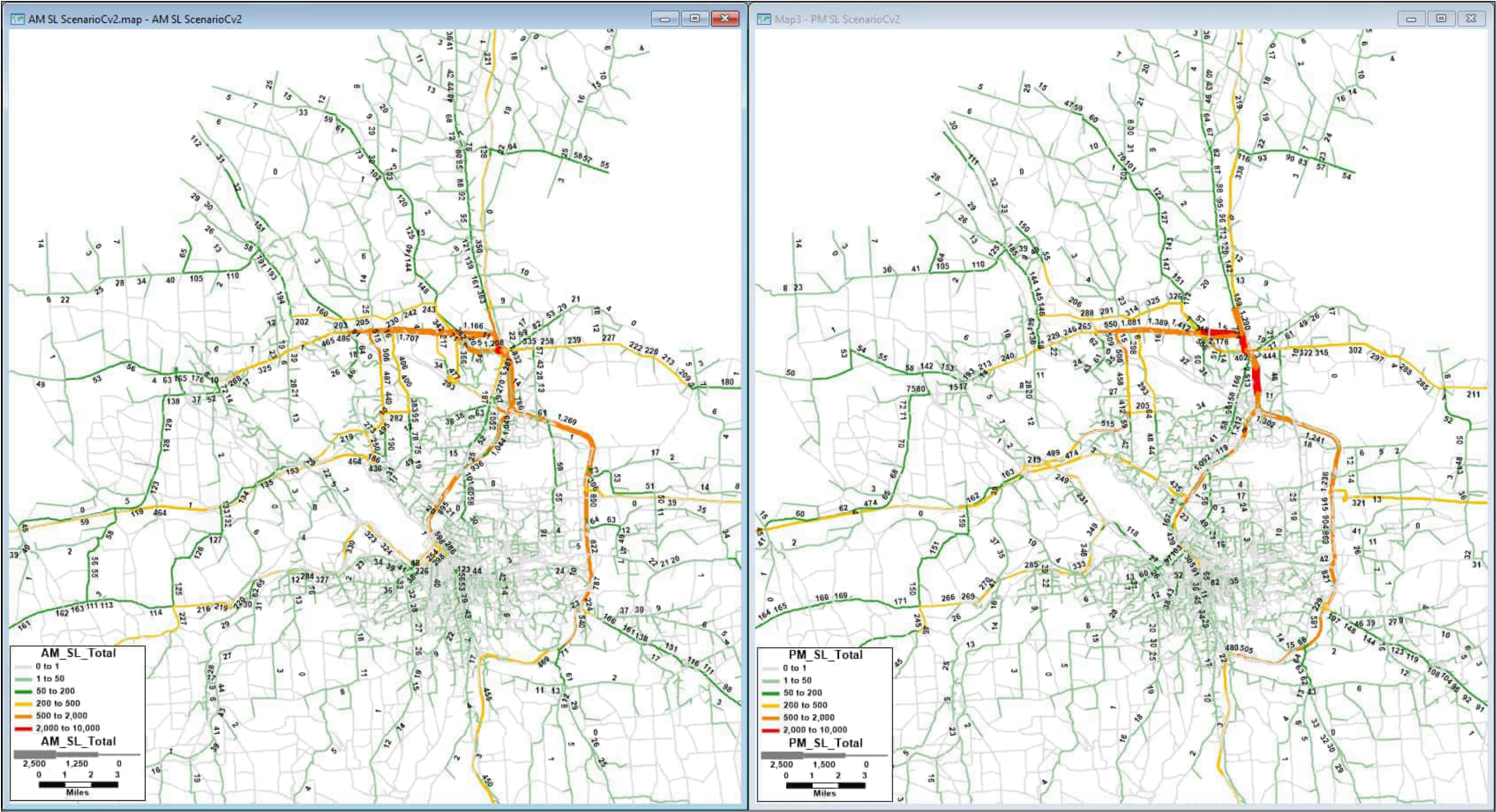


AM Peak Hour

PM Peak Hour



SMTC Travel Demand Model Results:
 Scenario C v2 (New I81 Interchange & Reduced Capacity SPUI @ Rt31 & I81) –
 MICRON CENTROID CONNECTOR AM & PM PEAK HOUR SELECT LINK ANALYSIS



AM Peak Hour

PM Peak Hour



| TAZ | Town_City     | HH  | HH_GQ | pop       | veh                |
|-----|---------------|-----|-------|-----------|--------------------|
| 0   | 1 Tully       | 217 | 0     | 526       | 420.9999           |
| 1   | 2 Tully       | 316 | 0     | 720.56022 | 590.7387076399999  |
| 2   | 3 Tully       | 133 | 0     | 362.00011 | 266                |
| 3   | 4 Spafford    | 280 | 0     | 685.8422  | 550.5615           |
| 4   | 5 Tully       | 303 | 2     | 697.05688 | 559.9352069400001  |
| 5   | 6 Fabius      | 125 | 0     | 308       | 248                |
| 6   | 7 Fabius      | 157 | 0     | 399.00038 | 320.0003           |
| 7   | 8 Tully       | 112 | 0     | 310.77461 | 219.96386719999998 |
| 8   | 9 Fabius      | 198 | 0     | 501.06146 | 413.17365276000004 |
| 9   | 10 Fabius     | 248 | 0     | 621.99980 | 508                |
| 10  | 11 Otisco     | 113 | 0     | 277.0958  | 226.00010170000002 |
| 11  | 12 Otisco     | 384 | 0     | 910.18375 | 746.2051968000001  |
| 12  | 13 Otisco     | 148 | 0     | 382.4158  | 305.9326           |
| 13  | 14 Otisco     | 176 | 0     | 467.0005  | 370.0004           |
| 14  | 15 Otisco     | 157 | 0     | 399.4554  | 313.9998           |
| 15  | 16 Spafford   | 232 | 0     | 536.3673  | 448.0368           |
| 16  | 17 Spafford   | 212 | 0     | 498.4255  | 411.5958           |
| 17  | 18 Lafayette  | 89  | 0     | 201       | 161                |
| 18  | 19 Lafayette  | 351 | 0     | 845.9997  | 656.9997993000001  |
| 19  | 20 Lafayette  | 154 | 5     | 413.3919  | 296.3034           |
| 20  | 21 Lafayette  | 197 | 0     | 482.5505  | 369.12630720000004 |
| 21  | 22 Pompey     | 239 | 0     | 633.5059  | 511.3968           |
| 22  | 23 Pompey     | 245 | 0     | 613.99915 | 488.9994200000001  |
| 23  | 24 Pompey     | 127 | 0     | 325.99979 | 265.9998997999999  |
| 24  | 25 Skaneatele | 400 | 0     | 955.3187  | 834.0422           |
| 25  | 26 Skaneatele | 167 | 4     | 378.779   | 340.79654930000004 |
| 26  | 27 Lafayette  | 120 | 0     | 270.2519  | 216.8066           |
| 27  | 28 Lafayette  | 55  | 0     | 151.0001  | 108.00012300000002 |
| 28  | 29 Lafayette  | 251 | 0     | 539.148   | 437.744            |
| 29  | 30 Pompey     | 120 | 0     | 286.61119 | 242.97493920000002 |
| 30  | 31 Pompey     | 89  | 5     | 227.9685  | 184.55799170000003 |
| 31  | 32 Pompey     | 80  | 0     | 200.4937  | 165.9259           |
| 32  | 33 Pompey     | 150 | 0     | 392.00053 | 313.0004           |
| 33  | 34 Pompey     | 59  | 0     | 140.3794  | 116.9828           |
| 34  | 35 Pompey     | 51  | 0     | 122.5961  | 101.99999490000002 |
| 35  | 36 Marcellus  | 102 | 0     | 252.52449 | 196.07783747999997 |
| 36  | 37 Marcellus  | 23  | 0     | 43.00001  | 41.000007000000004 |
| 37  | 38 Marcellus  | 80  | 0     | 194.56794 | 159.0124           |
| 38  | 39 Lafayette  | 253 | 0     | 537.87340 | 438.2672           |
| 39  | 40 Skaneatele | 293 | 3     | 636.51256 | 580.06             |
| 40  | 41 Skaneatele | 17  | 0     | 37.1875   | 39.3125            |
| 41  | 42 Skaneatele | 212 | 0     | 517.28000 | 445.2              |
| 42  | 43 Onondaga   | 120 | 0     | 290.9998  | 236.9999           |



| TAZ | Town_City     | HH  | HH_GQ | pop       | veh                |
|-----|---------------|-----|-------|-----------|--------------------|
| 43  | 44 Onondaga   | 216 | 0     | 564.6144  | 446.0653           |
| 44  | 45 Lafayette  | 83  | 0     | 204.00003 | 158                |
| 45  | 46 Lafayette  | 76  | 0     | 193.9999  | 147.99994519999998 |
| 46  | 47 Pompey     | 79  | 0     | 195.99988 | 163.99993940000002 |
| 47  | 48 Pompey     | 272 | 7     | 706.01018 | 566.4225           |
| 48  | 49 Onondaga   | 72  | 4     | 190.07780 | 145.87006319999998 |
| 49  | 50 Onondaga   | 92  | 0     | 208.9999  | 178.99993799999996 |
| 50  | 51 Onondaga   | 225 | 0     | 548.0004  | 448.0002832499999  |
| 51  | 52 Onondaga   | 6   | 0     | 13.714271 | 12.857129999999998 |
| 52  | 53 Marcellus  | 111 | 0     | 283.4466  | 222.99118227000002 |
| 53  | 54 Marcellus  | 183 | 0     | 462.5278  | 361.9783           |
| 54  | 55 Marcellus  | 83  | 0     | 199.5952  | 160.0714           |
| 55  | 56 Onondaga   | 306 | 0     | 436.00052 | 436.0008           |
| 56  | 57 Skaneatele | 241 | 0     | 581.0001  | 442.99994363999997 |
| 57  | 58 Skaneatele | 185 | 0     | 439.63508 | 334.663            |
| 58  | 59 Skaneatele | 494 | 0     | 953.93124 | 765.4871749199999  |
| 59  | 60 Onondaga   | 189 | 0     | 442.9997  | 302.9998           |
| 60  | 61 Lafayette  | 241 | 0     | 552.0001  | 434.0001           |
| 61  | 62 Marcellus  | 109 | 0     | 270.5183  | 193.2273           |
| 62  | 63 Onondaga   | 361 | 0     | 900.0001  | 725                |
| 63  | 64 Skaneatele | 150 | 0     | 381.54333 | 286.91257799999994 |
| 64  | 65 Skaneatele | 318 | 0     | 776.4422  | 590.8583767800001  |
| 65  | 66 Skaneatele | 42  | 0     | 116.23253 | 81.06978           |
| 66  | 67 Onondaga   | 202 | 0     | 502.5119  | 312.4529           |
| 67  | 68 Pompey     | 153 | 0     | 424.7759  | 322.10500950000005 |
| 68  | 69 Pompey     | 237 | 6     | 612.1153  | 496.1875           |
| 69  | 70 Pompey     | 316 | 0     | 953.21437 | 696.6600716799999  |
| 70  | 71 Lafayette  | 125 | 0     | 310.97546 | 238.821            |
| 71  | 72 Pompey     | 127 | 0     | 306.9998  | 256.9999           |
| 72  | 73 Pompey     | 195 | 0     | 596.9382  | 424.82101349999994 |
| 73  | 74 Marcellus  | 413 | 0     | 821.0125  | 669.3795794000001  |
| 74  | 75 Onondaga   | 12  | 0     | 20.727263 | 16.36363           |
| 75  | 76 Onondaga   | 256 | 0     | 632.0615  | 419.72057087999997 |
| 76  | 77 Onondaga   | 212 | 0     | 492.3218  | 414.9571           |
| 77  | 78 Marcellus  | 111 | 0     | 317.8638  | 225.02741400000002 |
| 78  | 79 Marcellus  | 17  | 0     | 40.375    | 34                 |
| 79  | 80 Marcellus  | 15  | 0     | 32.8125   | 24.375             |
| 80  | 81 Onondaga   | 425 | 0     | 955.24814 | 666.5687335000001  |
| 81  | 82 Onondaga   | 286 | 0     | 754.4659  | 535.0968           |
| 82  | 83 Skaneatele | 493 | 0     | 1186.593  | 899.1760642200001  |
| 83  | 84 Manlius    | 16  | 0     | 47.999991 | 30.933318399999997 |
| 84  | 85 Manlius    | 145 | 0     | 424.9304  | 288.9929           |
| 85  | 86 Manlius    | 345 | 0     | 766.9995  | 604.9997           |



| TAZ | Town_City     | HH  | HH_GQ | pop       | veh                |
|-----|---------------|-----|-------|-----------|--------------------|
| 86  | 87 Manlius    | 215 | 0     | 495       | 367.99995980000006 |
| 87  | 88 Marcellus  | 200 | 0     | 490.0994  | 350.49531999999994 |
| 88  | 89 Marcellus  | 207 | 0     | 415.0045  | 333.6113           |
| 89  | 90 Dewitt     | 373 | 0     | 999.84757 | 696.2668           |
| 90  | 91 Dewitt     | 50  | 0     | 147       | 99                 |
| 91  | 92 Marcellus  | 142 | 0     | 352.00008 | 250.0001           |
| 92  | 93 Marcellus  | 156 | 0     | 406.99978 | 283.99983768000004 |
| 93  | 94 Marcellus  | 133 | 0     | 335.0001  | 237                |
| 94  | 95 Onondaga   | 630 | 4     | 1571.24   | 1039.6542365999999 |
| 95  | 96 Syracuse   | 758 | 0     | 1652.18   | 1148.5156572800001 |
| 96  | 97 Manlius    | 62  | 0     | 122.03170 | 98.41264959999998  |
| 97  | 98 Manlius    | 619 | 0     | 1373.852  | 1031.6658206999998 |
| 98  | 99 Syracuse   | 763 | 0     | 1277.001  | 789.0008           |
| 99  | 100 Syracuse  | 311 | 7     | 640.7729  | 350.24311203999997 |
| 100 | 101 Onondaga  | 456 | 7     | 1261.7383 | 862.7556           |
| 101 | 102 Syracuse  | 326 | 24    | 768.8773  | 506.18213318000005 |
| 102 | 103 Marcellus | 242 | 0     | 610.99979 | 435.99988079999997 |
| 103 | 104 Marcellus | 152 | 0     | 395.40518 | 278.3242           |
| 104 | 105 Manlius   | 710 | 1     | 1590.001  | 1256.001           |
| 105 | 106 Dewitt    | 236 | 6     | 536.0172  | 388.41689479999997 |
| 106 | 107 Syracuse  | 33  | 0     | 58.999957 | 33.999969300000004 |
| 107 | 108 Syracuse  | 40  | 0     | 96        | 45                 |
| 108 | 109 Syracuse  | 290 | 0     | 641       | 342.00000150000005 |
| 109 | 110 Syracuse  | 49  | 0     | 103.00000 | 55.99998319999999  |
| 110 | 111 Onondaga  | 241 | 1     | 690.00024 | 464.0001           |
| 111 | 112 Onondaga  | 171 | 0     | 482.9998  | 331.9998           |
| 112 | 113 Onondaga  | 11  | 0     | 31.999977 | 19.99999           |
| 113 | 114 Dewitt    | 35  | 0     | 83.382397 | 74.11769400000001  |
| 114 | 115 Manlius   | 791 | 0     | 2182.93   | 1609.3140209999997 |
| 115 | 116 Onondaga  | 541 | 10    | 1502.413  | 1083.963           |
| 116 | 117 Onondaga  | 643 | 0     | 1781.771  | 1231.916           |
| 117 | 118 Syracuse  | 696 | 0     | 852.00027 | 552.0001           |
| 118 | 119 Syracuse  | 705 | 0     | 1428.9995 | 563.0000279999999  |
| 119 | 120 Manlius   | 222 | 0     | 561.0004  | 430.0002           |
| 120 | 121 Syracuse  | 314 | 0     | 777.04989 | 302.07575579999997 |
| 121 | 122 Syracuse  | 127 | 0     | 275.00002 | 150                |
| 122 | 123 Syracuse  | 331 | 0     | 731.35269 | 389.84453786000006 |
| 123 | 124 Onondaga  | 78  | 0     | 172.2077  | 130.6753           |
| 124 | 125 Manlius   | 390 | 0     | 831.62997 | 675.1530942000002  |
| 125 | 126 Manlius   | 156 | 0     | 309.40007 | 266.5001           |
| 126 | 127 Manlius   | 373 | 0     | 689.64792 | 532.6658801799999  |
| 127 | 128 Syracuse  | 276 | 7     | 633.8721  | 253.97856719999996 |
| 128 | 129 Dewitt    | 2   | 0     | 3         | 3                  |



| TAZ | Town_City    | HH  | HH_GQ | pop       | veh                |
|-----|--------------|-----|-------|-----------|--------------------|
| 129 | 130 Syracuse | 116 | 0     | 288.51267 | 140.7862           |
| 130 | 131 Syracuse | 86  | 0     | 207.58641 | 105.7702           |
| 131 | 132 Syracuse | 89  | 0     | 213.8045  | 107.4138           |
| 132 | 133 Onondaga | 203 | 14    | 416.24057 | 307.3193           |
| 133 | 134 Manlius  | 266 | 0     | 520.9582  | 402.5131           |
| 134 | 135 Manlius  | 185 | 0     | 446.4128  | 326.76618449999995 |
| 135 | 136 Manlius  | 198 | 0     | 421.12691 | 316.59902604000007 |
| 136 | 137 Manlius  | 196 | 0     | 555.3336  | 398.92946828000004 |
| 137 | 138 Onondaga | 383 | 0     | 1003.62   | 751.9628202000001  |
| 138 | 139 Onondaga | 119 | 0     | 284.9995  | 228.99967061999993 |
| 139 | 140 Onondaga | 0   | 0     | 0         | 0                  |
| 140 | 141 Onondaga | 79  | 0     | 130.99996 | 112                |
| 141 | 142 Onondaga | 451 | 6     | 750.1003  | 631.597            |
| 142 | 143 Syracuse | 94  | 1     | 250.34709 | 137.5366           |
| 143 | 144 Syracuse | 210 | 14    | 498.9777  | 282.5111           |
| 144 | 145 Syracuse | 362 | 0     | 944.00072 | 440.0004           |
| 145 | 146 Syracuse | 24  | 0     | 45.913051 | 23.999992800000005 |
| 146 | 147 Syracuse | 15  | 0     | 38.4375   | 15.9375            |
| 147 | 148 Syracuse | 836 | 0     | 1445.2708 | 882.9434983600001  |
| 148 | 149 Syracuse | 291 | 0     | 695.0001  | 405.0001           |
| 149 | 150 Syracuse | 487 | 5     | 1310.2783 | 416.57860198000003 |
| 150 | 151 Syracuse | 192 | 6     | 450.12195 | 258.90944640000004 |
| 151 | 152 Onondaga | 6   | 0     | 19.000038 | 11.000022000000001 |
| 152 | 153 Onondaga | 13  | 0     | 29.7143   | 23.214297600000005 |
| 153 | 154 Manlius  | 82  | 0     | 146.79021 | 133.6297           |
| 154 | 155 Syracuse | 295 | 4     | 598.09673 | 479.37440410000005 |
| 155 | 156 Dewitt   | 445 | 0     | 1018.151  | 656.904            |
| 156 | 157 Syracuse | 158 | 0     | 427.0001  | 192.00003579999998 |
| 157 | 158 Syracuse | 283 | 4     | 748.84103 | 234.85081016000004 |
| 158 | 159 Dewitt   | 241 | 0     | 603.01339 | 499.4345           |
| 159 | 160 Dewitt   | 313 | 0     | 781.4967  | 658.1024           |
| 160 | 161 Dewitt   | 242 | 0     | 543.4384  | 386.35087040000001 |
| 161 | 162 Dewitt   | 59  | 0     | 139.9998  | 95.99989710000001  |
| 162 | 163 Onondaga | 361 | 0     | 713.02469 | 506.59647674000007 |
| 163 | 164 Onondaga | 353 | 0     | 945.9997  | 594.9999           |
| 164 | 165 Onondaga | 100 | 0     | 250.5049  | 160.60591999999997 |
| 165 | 166 Manlius  | 103 | 0     | 231.9999  | 177.99997324000003 |
| 166 | 167 Syracuse | 127 | 0     | 324.5557  | 142.1191           |
| 167 | 168 Syracuse | 19  | 0     | 44.70592  | 21.2353            |
| 168 | 169 Dewitt   | 31  | 0     | 73.625    | 49.40625           |
| 169 | 170 Syracuse | 177 | 0     | 461.3931  | 208.8201           |
| 170 | 171 Syracuse | 700 | 0     | 1580.376  | 794.3685330000001  |
| 171 | 172 Camillus | 196 | 0     | 532.28428 | 385.0355           |



| TAZ | Town_City    | HH  | HH_GQ | pop       | veh                |
|-----|--------------|-----|-------|-----------|--------------------|
| 172 | 173 Syracuse | 251 | 0     | 599.7794  | 231.84747010000007 |
| 173 | 174 Syracuse | 34  | 0     | 97.277753 | 33.055544600000005 |
| 174 | 175 Manlius  | 54  | 0     | 153.1636  | 107.0182           |
| 175 | 176 Manlius  | 126 | 0     | 333.648   | 248.97600000000006 |
| 176 | 177 Syracuse | 265 | 9     | 603.06574 | 391.19029965000004 |
| 177 | 178 Manlius  | 522 | 0     | 1212.322  | 885.6960719399999  |
| 178 | 179 Dewitt   | 340 | 4     | 845.4751  | 718.1123782000001  |
| 179 | 180 Syracuse | 144 | 0     | 293.00002 | 157.99999680000002 |
| 180 | 181 Syracuse | 201 | 0     | 326.9999  | 199.99996871999997 |
| 181 | 182 Syracuse | 76  | 0     | 205.29867 | 73.03896           |
| 182 | 183 Syracuse | 33  | 0     | 88.32355  | 32.02942           |
| 183 | 184 Syracuse | 61  | 1     | 174.00011 | 61                 |
| 184 | 185 Dewitt   | 268 | 9     | 601.3188  | 409.7679264000001  |
| 185 | 186 Syracuse | 24  | 0     | 53.00003  | 42.00001439999999  |
| 186 | 187 Manlius  | 646 | 5     | 1173.7628 | 923.2829           |
| 187 | 188 Manlius  | 113 | 0     | 289.5627  | 219.94654254000002 |
| 188 | 189 Syracuse | 218 | 0     | 562.0002  | 385                |
| 189 | 190 Syracuse | 101 | 0     | 271.31363 | 116.8431           |
| 190 | 191 Onondaga | 373 | 0     | 881.3634  | 591.5863775800001  |
| 191 | 192 Syracuse | 379 | 0     | 970.99976 | 677.9996567000001  |
| 192 | 193 Syracuse | 143 | 0     | 346.4224  | 250.75343149999998 |
| 193 | 194 Elbridge | 135 | 5     | 323.56154 | 253.48947299999992 |
| 194 | 195 Elbridge | 217 | 0     | 531.55043 | 406.12845706999997 |
| 195 | 196 Syracuse | 194 | 0     | 369.00022 | 305.0001           |
| 196 | 197 Onondaga | 1   | 0     | 2         | 2                  |
| 197 | 198 Onondaga | 24  | 0     | 52.17395  | 36.52175520000001  |
| 198 | 199 Syracuse | 95  | 0     | 253.33326 | 112.8125           |
| 199 | 200 Syracuse | 167 | 0     | 455.72927 | 200.1989           |
| 200 | 201 Syracuse | 217 | 0     | 562.59294 | 261.2039           |
| 201 | 202 Manlius  | 450 | 0     | 880.95744 | 681.5142           |
| 202 | 203 Syracuse | 145 | 0     | 328.99999 | 163                |
| 203 | 204 Syracuse | 281 | 5     | 720.7185  | 267.29287619999997 |
| 204 | 205 Syracuse | 12  | 0     | 30.545443 | 9.818180400000001  |
| 205 | 206 Syracuse | 99  | 0     | 262.9999  | 92.99997           |
| 206 | 207 Syracuse | 91  | 0     | 225.52182 | 85.06521660000001  |
| 207 | 208 Dewitt   | 576 | 4     | 1393.352  | 954.3726           |
| 208 | 209 Onondaga | 322 | 0     | 590.0003  | 422.0002           |
| 209 | 210 Onondaga | 76  | 5     | 180.45676 | 115.4074           |
| 210 | 211 Syracuse | 262 | 8     | 557.13639 | 416.6863064999999  |
| 211 | 212 Syracuse | 483 | 5     | 1165.583  | 834.6319           |
| 212 | 213 Camillus | 225 | 0     | 560.9868  | 437.8925           |
| 213 | 214 Camillus | 294 | 0     | 798.4534  | 610.2088717199999  |
| 214 | 215 Camillus | 41  | 0     | 56.999975 | 54.99998           |



| TAZ | Town_City    | HH   | HH_GQ | pop       | veh                |
|-----|--------------|------|-------|-----------|--------------------|
| 215 | 216 Onondaga | 128  | 1     | 283.58461 | 185.1077           |
| 216 | 217 Syracuse | 258  | 4     | 540.67939 | 433.2825           |
| 217 | 218 Syracuse | 173  | 0     | 343.9995  | 272.9997           |
| 218 | 219 Dewitt   | 124  | 0     | 337.00009 | 225                |
| 219 | 220 Dewitt   | 276  | 5     | 598.10633 | 417.91481160000006 |
| 220 | 221 Syracuse | 170  | 0     | 421.0002  | 145.0001           |
| 221 | 222 Syracuse | 158  | 0     | 443.00049 | 143.0001           |
| 222 | 223 Syracuse | 120  | 21    | 306.957   | 75.7446            |
| 223 | 224 Syracuse | 57   | 0     | 142.0001  | 36.00002           |
| 224 | 225 Syracuse | 74   | 0     | 195.9999  | 47.99997           |
| 225 | 226 Manlius  | 466  | 6     | 1187.784  | 888.5591864200001  |
| 226 | 227 Syracuse | 68   | 42    | 238.58185 | 49.454539520000004 |
| 227 | 228 Manlius  | 184  | 0     | 409.1295  | 333.3648           |
| 228 | 229 Onondaga | 73   | 0     | 147.01388 | 106.4583           |
| 229 | 230 Onondaga | 130  | 0     | 255.00005 | 184                |
| 230 | 231 Syracuse | 322  | 0     | 835.59588 | 483.50183377999997 |
| 231 | 232 Syracuse | 77   | 0     | 184.99987 | 62.99996           |
| 232 | 233 Syracuse | 94   | 54    | 256.068   | 74.17688           |
| 233 | 234 Syracuse | 385  | 0     | 971.7158  | 572.3806934999999  |
| 234 | 235 Syracuse | 36   | 0     | 72        | 18.514299599999998 |
| 235 | 236 Syracuse | 50   | 0     | 137.7552  | 32.65307           |
| 236 | 237 Dewitt   | 111  | 0     | 276.509   | 231.9107           |
| 237 | 238 Dewitt   | 154  | 0     | 351.0002  | 317.00022662000003 |
| 238 | 239 Syracuse | 534  | 0     | 1455.2500 | 1060.8647774400001 |
| 239 | 240 Geddes   | 15   | 7     | 31.54547  | 17.72728           |
| 240 | 241 Manlius  | 324  | 0     | 697.1516  | 572.7678           |
| 241 | 242 Syracuse | 60   | 0     | 116.0656  | 30.49182           |
| 242 | 243 Syracuse | 38   | 0     | 104.00002 | 19.99999           |
| 243 | 244 Manlius  | 498  | 0     | 1154.981  | 899.1375408600001  |
| 244 | 245 Syracuse | 170  | 0     | 427.99970 | 121.99981999999999 |
| 245 | 246 Syracuse | 169  | 0     | 395.6591  | 117.3059           |
| 246 | 247 Syracuse | 0    | 0     | 0         | 0                  |
| 247 | 248 Syracuse | 83   | 0     | 291.48828 | 72.13097           |
| 248 | 249 Syracuse | 290  | 16    | 644.49184 | 258.623            |
| 249 | 250 Syracuse | 206  | 0     | 522.53617 | 201.98032199999997 |
| 250 | 251 Syracuse | 149  | 0     | 390.0003  | 128                |
| 251 | 252 Syracuse | 85   | 0     | 247.99998 | 76.99993           |
| 252 | 253 Syracuse | 140  | 6     | 322.43824 | 240.68486400000003 |
| 253 | 254 Dewitt   | 124  | 9     | 284.24267 | 186.9396           |
| 254 | 255 Dewitt   | 270  | 4     | 691.36213 | 446.0436180000001  |
| 255 | 256 Camillus | 1304 | 4     | 2806.2974 | 2190.359           |
| 256 | 257 Camillus | 801  | 0     | 1959.554  | 1413.235           |
| 257 | 258 Geddes   | 452  | 0     | 988.8123  | 735.373            |



| TAZ | Town_City    | HH  | HH_GQ | pop       | veh                |
|-----|--------------|-----|-------|-----------|--------------------|
| 258 | 259 Geddes   | 1   | 0     | 2         | 2                  |
| 259 | 260 Syracuse | 65  | 5     | 111.7856  | 88.21422350000002  |
| 260 | 261 Syracuse | 494 | 0     | 1095.782  | 672.6380569999999  |
| 261 | 262 Syracuse | 107 | 0     | 307.87698 | 82.77361           |
| 262 | 263 Syracuse | 123 | 10    | 348.4816  | 95.25567720000001  |
| 263 | 264 Camillus | 159 | 0     | 312.9999  | 198.99982557000004 |
| 264 | 265 Camillus | 262 | 0     | 568.9999  | 355.0001           |
| 265 | 266 Camillus | 165 | 7     | 325.5549  | 205.0577           |
| 266 | 267 Camillus | 582 | 4     | 1316.237  | 959.0567           |
| 267 | 268 Geddes   | 503 | 0     | 1180.0004 | 841.0003617299999  |
| 268 | 269 Syracuse | 1   | 0     | 1         | 0                  |
| 269 | 270 Syracuse | 0   | 0     | 0         | 0                  |
| 270 | 271 Syracuse | 417 | 2     | 1072.864  | 410.0333           |
| 271 | 272 Syracuse | 206 | 33    | 445.8656  | 120.3109           |
| 272 | 273 Syracuse | 4   | 51    | 64        | 2.071429           |
| 273 | 274 Syracuse | 295 | 49    | 596.12242 | 87.47098           |
| 274 | 275 Camillus | 63  | 0     | 136       | 103.99994639999998 |
| 275 | 276 Syracuse | 265 | 0     | 602.9992  | 459.9995345000001  |
| 276 | 277 Syracuse | 179 | 3     | 352.1966  | 285.6174           |
| 277 | 278 Syracuse | 85  | 0     | 173.95329 | 135.40681899999998 |
| 278 | 279 Syracuse | 0   | 668   | 668       | 0                  |
| 279 | 280 Syracuse | 1   | 658   | 660.7246  | 1.651198           |
| 280 | 281 Syracuse | 340 | 20    | 789.473   | 232.6313           |
| 281 | 282 Syracuse | 0   | 0     | 0         | 0                  |
| 282 | 283 Syracuse | 280 | 31    | 802.89168 | 569.4594           |
| 283 | 284 Syracuse | 142 | 700   | 1016      | 144                |
| 284 | 285 Syracuse | 265 | 6     | 701.87026 | 401.4258           |
| 285 | 286 Syracuse | 193 | 0     | 438.2707  | 268.3905           |
| 286 | 287 Elbridge | 254 | 0     | 639.5177  | 482.9011           |
| 287 | 288 Elbridge | 217 | 4     | 522.06324 | 403.6983           |
| 288 | 289 Elbridge | 218 | 0     | 535.5439  | 411.11448468000003 |
| 289 | 290 Syracuse | 151 | 42    | 468.1204  | 117.7957           |
| 290 | 291 Geddes   | 420 | 8     | 892.15905 | 605.4674009999999  |
| 291 | 292 Syracuse | 12  | 0     | 25.000010 | 2.9999988000000006 |
| 292 | 293 Syracuse | 0   | 0     | 0         | 0                  |
| 293 | 294 Syracuse | 29  | 0     | 61.99996  | 46.999975199999994 |
| 294 | 295 Syracuse | 272 | 0     | 552.0295  | 444.63470079999996 |
| 295 | 296 Syracuse | 337 | 0     | 812.99982 | 488.9999           |
| 296 | 297 Geddes   | 444 | 0     | 990.23075 | 679.5308           |
| 297 | 298 Syracuse | 0   | 428   | 428       | 0                  |
| 298 | 299 Syracuse | 0   | 59    | 59        | 0                  |
| 299 | 300 Dewitt   | 310 | 0     | 709.71106 | 461.5115979000001  |
| 300 | 301 Syracuse | 637 | 1     | 1006.5620 | 173.4918           |



| TAZ | Town_City    | HH  | HH_GQ | pop       | veh                |
|-----|--------------|-----|-------|-----------|--------------------|
| 301 | 302 Syracuse | 70  | 0     | 229.9999  | 38.99997499999999  |
| 302 | 303 Syracuse | 0   | 0     | 0         | 0                  |
| 303 | 304 Syracuse | 41  | 0     | 69.99992  | 11.999970200000002 |
| 304 | 305 Syracuse | 47  | 0     | 101.1522  | 18.39132           |
| 305 | 306 Syracuse | 21  | 0     | 56.31824  | 10.50001           |
| 306 | 307 Syracuse | 21  | 27    | 54.99999  | 6.999988799999999  |
| 307 | 308 Syracuse | 0   | 0     | 0         | 0                  |
| 308 | 309 Syracuse | 0   | 70    | 70        | 0                  |
| 309 | 310 Syracuse | 1   | 0     | 1         | 0                  |
| 310 | 311 Syracuse | 414 | 6     | 941.1876  | 711.9618           |
| 311 | 312 Syracuse | 0   | 0     | 0         | 0                  |
| 312 | 313 Syracuse | 0   | 0     | 0         | 0                  |
| 313 | 314 Syracuse | 0   | 96    | 96        | 0                  |
| 314 | 315 Syracuse | 0   | 0     | 0         | 0                  |
| 315 | 316 Syracuse | 0   | 0     | 0         | 0                  |
| 316 | 317 Syracuse | 33  | 210   | 276       | 43.32097           |
| 317 | 318 Syracuse | 6   | 254   | 266.9961  | 7.969105           |
| 318 | 319 Syracuse | 0   | 0     | 0         | 0                  |
| 319 | 320 Syracuse | 198 | 0     | 520.0003  | 97.00006           |
| 320 | 321 Syracuse | 72  | 0     | 181       | 35.000006400000004 |
| 321 | 322 Syracuse | 62  | 0     | 172.9999  | 31.99999           |
| 322 | 323 Syracuse | 92  | 0     | 246.3227  | 50.45164           |
| 323 | 324 Manlius  | 241 | 0     | 593.57446 | 450.75965199999996 |
| 324 | 325 Manlius  | 136 | 0     | 279.94180 | 230.3068           |
| 325 | 326 Syracuse | 1   | 82    | 84        | 1.301204           |
| 326 | 327 Syracuse | 65  | 66    | 203.939   | 83.35882           |
| 327 | 328 Syracuse | 0   | 464   | 464       | 0                  |
| 328 | 329 Syracuse | 0   | 225   | 225       | 0                  |
| 329 | 330 Syracuse | 123 | 0     | 298.9998  | 179                |
| 330 | 331 Syracuse | 85  | 0     | 204.40484 | 124.46436100000001 |
| 331 | 332 Dewitt   | 233 | 0     | 514.9998  | 335.99996602000004 |
| 332 | 333 Dewitt   | 130 | 10    | 244.00007 | 160.6429           |
| 333 | 334 Camillus | 606 | 4     | 1223.9343 | 936.2748           |
| 334 | 335 Syracuse | 168 | 0     | 400.2352  | 162.0707           |
| 335 | 336 Syracuse | 217 | 0     | 538.96750 | 208.9257           |
| 336 | 337 Syracuse | 0   | 0     | 0         | 0                  |
| 337 | 338 Syracuse | 0   | 0     | 0         | 0                  |
| 338 | 339 Syracuse | 67  | 0     | 67.999968 | 48.99997           |
| 339 | 340 Syracuse | 0   | 0     | 0         | 0                  |
| 340 | 341 Syracuse | 0   | 0     | 0         | 0                  |
| 341 | 342 Syracuse | 0   | 0     | 0         | 0                  |
| 342 | 343 Syracuse | 196 | 0     | 219.11797 | 148.75905099999997 |
| 343 | 344 Syracuse | 0   | 4     | 4         | 0                  |



| TAZ | Town_City    | HH  | HH_GQ | pop       | veh                |
|-----|--------------|-----|-------|-----------|--------------------|
| 344 | 345 Syracuse | 136 | 0     | 273.98552 | 166.7738           |
| 345 | 346 Syracuse | 0   | 62    | 62        | 0                  |
| 346 | 347 Syracuse | 208 | 0     | 453.9998  | 349.9999           |
| 347 | 348 Syracuse | 223 | 0     | 368.2095  | 318.07772249999994 |
| 348 | 349 Geddes   | 211 | 0     | 504.6079  | 360.29206251999994 |
| 349 | 350 Camillus | 501 | 0     | 1197.9102 | 864.2502           |
| 350 | 351 Manlius  | 380 | 0     | 941.47644 | 715.8832616000001  |
| 351 | 352 Manlius  | 52  | 5     | 126.03445 | 96.82759           |
| 352 | 353 Syracuse | 321 | 49    | 657.16467 | 137.07557070000001 |
| 353 | 354 Syracuse | 77  | 0     | 194.47434 | 40.474341599999995 |
| 354 | 355 Syracuse | 0   | 0     | 0         | 0                  |
| 355 | 356 Syracuse | 0   | 0     | 0         | 0                  |
| 356 | 357 Geddes   | 380 | 0     | 926.87869 | 650.4233           |
| 357 | 358 Syracuse | 145 | 9     | 363.4445  | 128.8888           |
| 358 | 359 Syracuse | 142 | 0     | 286.0142  | 121.85818040000001 |
| 359 | 360 Syracuse | 60  | 0     | 106.00003 | 47.00003           |
| 360 | 361 Syracuse | 5   | 0     | 12        | 9                  |
| 361 | 362 Syracuse | 180 | 1     | 316.99981 | 229.99987800000002 |
| 362 | 363 Syracuse | 260 | 1     | 539       | 368                |
| 363 | 364 Syracuse | 236 | 0     | 420.21946 | 351.51060119999994 |
| 364 | 365 Syracuse | 136 | 19    | 311.05120 | 226.66661679999999 |
| 365 | 366 Geddes   | 225 | 0     | 465.06689 | 329.46420825000007 |
| 366 | 367 Geddes   | 186 | 0     | 444.60941 | 297.401            |
| 367 | 368 Syracuse | 59  | 0     | 116.9828  | 79.34486969999998  |
| 368 | 369 Syracuse | 485 | 0     | 998.05744 | 688.4188939999999  |
| 369 | 370 Syracuse | 298 | 0     | 595.9997  | 416.397            |
| 370 | 371 Syracuse | 0   | 0     | 0         | 0                  |
| 371 | 372 Syracuse | 840 | 0     | 1183.592  | 590.2975           |
| 372 | 373 Syracuse | 0   | 140   | 140       | 0                  |
| 373 | 374 Syracuse | 0   | 282   | 282       | 0                  |
| 374 | 375 Syracuse | 0   | 0     | 0         | 0                  |
| 375 | 376 Syracuse | 0   | 0     | 0         | 0                  |
| 376 | 377 Syracuse | 81  | 0     | 81        | 81                 |
| 377 | 378 Syracuse | 0   | 188   | 188       | 0                  |
| 378 | 379 Syracuse | 0   | 24    | 24        | 0                  |
| 379 | 380 Syracuse | 0   | 0     | 0         | 0                  |
| 380 | 381 Syracuse | 0   | 0     | 0         | 0                  |
| 381 | 382 Syracuse | 0   | 0     | 0         | 0                  |
| 382 | 383 Geddes   | 167 | 4     | 372.38246 | 271.12950164999995 |
| 383 | 384 Syracuse | 108 | 0     | 280       | 54.99998           |
| 384 | 385 Syracuse | 195 | 0     | 475       | 94.00008           |
| 385 | 386 Dewitt   | 160 | 4     | 397.1707  | 248.78041280000002 |
| 386 | 387 Dewitt   | 112 | 0     | 243       | 158.00001056000002 |



| TAZ | Town_City    | HH   | HH_GQ | pop       | veh                |
|-----|--------------|------|-------|-----------|--------------------|
| 387 | 388 Syracuse | 154  | 0     | 274.40004 | 156.79999719999998 |
| 388 | 389 Syracuse | 190  | 0     | 466.455   | 204.074            |
| 389 | 390 Syracuse | 146  | 0     | 210.44140 | 143.98619280000003 |
| 390 | 391 Syracuse | 201  | 10    | 402.47386 | 206.7156           |
| 391 | 392 Syracuse | 39   | 0     | 73.125000 | 39                 |
| 392 | 393 Camillus | 28   | 0     | 50.81478  | 40.444412400000004 |
| 393 | 394 Camillus | 379  | 3     | 899.53745 | 656.0757           |
| 394 | 395 Syracuse | 0    | 0     | 0         | 0                  |
| 395 | 396 Syracuse | 78   | 0     | 93.000039 | 49.000005599999994 |
| 396 | 397 Syracuse | 185  | 0     | 221.00685 | 109.26183434999999 |
| 397 | 398 Camillus | 1318 | 4     | 2825.5771 | 1993.463           |
| 398 | 399 Syracuse | 458  | 3     | 1171.793  | 486.74911800000007 |
| 399 | 400 Syracuse | 124  | 0     | 225.82114 | 96.78044256000003  |
| 400 | 401 Syracuse | 21   | 0     | 48.681851 | 20.045472300000004 |
| 401 | 402 Camillus | 642  | 4     | 1437.492  | 1074.249           |
| 402 | 403 Syracuse | 0    | 0     | 0         | 0                  |
| 403 | 404 Syracuse | 133  | 0     | 298.5113  | 222.65182071999996 |
| 404 | 405 Syracuse | 230  | 0     | 345       | 184                |
| 405 | 406 Syracuse | 66   | 0     | 124.89236 | 81.23081339999999  |
| 406 | 407 Syracuse | 214  | 2     | 436.93533 | 279.38902679999995 |
| 407 | 408 Syracuse | 0    | 0     | 0         | 0                  |
| 408 | 409 Syracuse | 0    | 0     | 0         | 0                  |
| 409 | 410 Syracuse | 137  | 0     | 182.3308  | 96.70589           |
| 410 | 411 Syracuse | 0    | 0     | 0         | 0                  |
| 411 | 412 Syracuse | 128  | 94    | 229.4203  | 66.78264           |
| 412 | 413 Syracuse | 0    | 0     | 0         | 0                  |
| 413 | 414 Syracuse | 31   | 0     | 31.000003 | 16.00001           |
| 414 | 415 Syracuse | 140  | 0     | 140.00005 | 70.99999           |
| 415 | 416 Camillus | 335  | 0     | 753.99994 | 517.9998           |
| 416 | 417 Syracuse | 27   | 0     | 38.999966 | 19.99998           |
| 417 | 418 Syracuse | 0    | 0     | 0         | 0                  |
| 418 | 419 Syracuse | 0    | 0     | 0         | 0                  |
| 419 | 420 Syracuse | 0    | 0     | 0         | 0                  |
| 420 | 421 Syracuse | 389  | 0     | 901.68208 | 528.6411582999999  |
| 421 | 422 Syracuse | 0    | 0     | 0         | 0                  |
| 422 | 423 Syracuse | 0    | 0     | 0         | 0                  |
| 423 | 424 Syracuse | 0    | 0     | 0         | 0                  |
| 424 | 425 Syracuse | 34   | 0     | 42.00003  | 32.00001           |
| 425 | 426 Syracuse | 0    | 0     | 0         | 0                  |
| 426 | 427 Syracuse | 4    | 0     | 7         | 4                  |
| 427 | 428 Syracuse | 28   | 0     | 71.448266 | 29.931028399999995 |
| 428 | 429 Syracuse | 192  | 0     | 476.48113 | 190.99457280000001 |
| 429 | 430 Syracuse | 137  | 0     | 279.82973 | 131.1701           |



| TAZ | Town_City    | HH  | HH_GQ | pop       | veh                |
|-----|--------------|-----|-------|-----------|--------------------|
| 430 | 431 Syracuse | 0   | 3     | 3         | 0                  |
| 431 | 432 Syracuse | 35  | 0     | 86.52779  | 35.97223           |
| 432 | 433 Syracuse | 15  | 0     | 38        | 14                 |
| 433 | 434 Syracuse | 196 | 0     | 378.00016 | 172                |
| 434 | 435 Syracuse | 5   | 0     | 8         | 5                  |
| 435 | 436 Syracuse | 0   | 0     | 0         | 0                  |
| 436 | 437 Syracuse | 0   | 0     | 0         | 0                  |
| 437 | 438 Syracuse | 0   | 0     | 0         | 0                  |
| 438 | 439 Syracuse | 82  | 0     | 152       | 99.00003499999998  |
| 439 | 440 Syracuse | 207 | 0     | 415.00009 | 266.00013359999997 |
| 440 | 441 Geddes   | 110 | 0     | 159.5495  | 124.86478730000002 |
| 441 | 442 Syracuse | 455 | 57    | 1053.201  | 443.44714050000005 |
| 442 | 443 Syracuse | 445 | 4     | 1042.671  | 434.88662739999995 |
| 443 | 444 Camillus | 238 | 0     | 523.9996  | 390.99974227999996 |
| 444 | 445 Syracuse | 0   | 0     | 0         | 0                  |
| 445 | 446 Dewitt   | 22  | 0     | 56.57142  | 36.66666           |
| 446 | 447 Geddes   | 200 | 0     | 483.417   | 344.7235           |
| 447 | 448 Geddes   | 137 | 7     | 278.12571 | 205.97887527999998 |
| 448 | 449 Syracuse | 49  | 0     | 110.25    | 42.875             |
| 449 | 450 Manlius  | 577 | 0     | 1397.576  | 1086.117           |
| 450 | 451 Geddes   | 834 | 5     | 1712.7612 | 1222.669           |
| 451 | 452 Manlius  | 673 | 0     | 1309.947  | 1129.679           |
| 452 | 453 Syracuse | 2   | 0     | 2         | 1                  |
| 453 | 454 Syracuse | 104 | 0     | 140.00008 | 64.00001712000001  |
| 454 | 455 Syracuse | 6   | 0     | 11.142845 | 5.1428519999999995 |
| 455 | 456 Syracuse | 3   | 0     | 3         | 2.000001           |
| 456 | 457 Syracuse | 26  | 0     | 34.99998  | 19.999995600000002 |
| 457 | 458 Syracuse | 95  | 0     | 151.59581 | 108.13831949999997 |
| 458 | 459 Syracuse | 277 | 0     | 506.17245 | 338.7769           |
| 459 | 460 Syracuse | 176 | 0     | 218.4099  | 109.20493760000001 |
| 460 | 461 Syracuse | 0   | 0     | 0         | 0                  |
| 461 | 462 Syracuse | 0   | 0     | 0         | 0                  |
| 462 | 463 Syracuse | 0   | 0     | 0         | 0                  |
| 463 | 464 Syracuse | 34  | 0     | 41.771414 | 22.342848399999998 |
| 464 | 465 Syracuse | 8   | 0     | 17.14284  | 10.285703999999999 |
| 465 | 466 Syracuse | 199 | 0     | 308.00004 | 125.99997430000002 |
| 466 | 467 Syracuse | 0   | 0     | 0         | 0                  |
| 467 | 468 Syracuse | 155 | 0     | 179.3571  | 69.74996           |
| 468 | 469 Syracuse | 128 | 0     | 188.52722 | 67.47289           |
| 469 | 470 Syracuse | 185 | 8     | 259.4846  | 95.3907            |
| 470 | 471 Syracuse | 189 | 0     | 375.9999  | 125.99997417000002 |
| 471 | 472 Syracuse | 306 | 0     | 794.00066 | 222.00015420000003 |
| 472 | 473 Dewitt   | 313 | 152   | 771.2542  | 401.3686           |



| TAZ | Town_City    | HH  | HH_GQ | pop       | veh                |
|-----|--------------|-----|-------|-----------|--------------------|
| 473 | 474 Dewitt   | 364 | 0     | 712.04328 | 468.7118399600001  |
| 474 | 475 Syracuse | 432 | 1     | 967.00015 | 484.99974720000006 |
| 475 | 476 Syracuse | 41  | 0     | 79.99995  | 35.99998           |
| 476 | 477 Syracuse | 37  | 0     | 75.02773  | 32.88887           |
| 477 | 478 Syracuse | 15  | 0     | 33.00002  | 16.000009499999997 |
| 478 | 479 Syracuse | 33  | 0     | 67.03125  | 29.90625           |
| 479 | 480 Syracuse | 190 | 12    | 424.7583  | 182.51230520000001 |
| 480 | 481 Syracuse | 108 | 0     | 195       | 94.99999032000001  |
| 481 | 482 Syracuse | 315 | 0     | 699.77823 | 300.0476           |
| 482 | 483 Syracuse | 294 | 0     | 652.7798  | 285.0305           |
| 483 | 484 Dewitt   | 0   | 0     | 0         | 0                  |
| 484 | 485 Dewitt   | 0   | 0     | 0         | 0                  |
| 485 | 486 Syracuse | 170 | 0     | 392.6898  | 247.5438           |
| 486 | 487 Elbridge | 460 | 0     | 1046.374  | 836.0877660000001  |
| 487 | 488 Elbridge | 320 | 4     | 781.70880 | 608.2970848000001  |
| 488 | 489 Syracuse | 113 | 0     | 158.40166 | 60.53566           |
| 489 | 490 Syracuse | 329 | 0     | 693.99997 | 226.00013120999998 |
| 490 | 491 Syracuse | 400 | 25    | 589.31944 | 233.803            |
| 491 | 492 Syracuse | 331 | 9     | 412.80033 | 174.7213           |
| 492 | 493 Syracuse | 0   | 0     | 0         | 0                  |
| 493 | 494 Syracuse | 150 | 0     | 224.5033  | 201.65577300000004 |
| 494 | 495 Syracuse | 29  | 0     | 58.90625  | 38.96875           |
| 495 | 496 Syracuse | 287 | 0     | 652.72542 | 275.0416           |
| 496 | 497 Syracuse | 144 | 1     | 311.8416  | 142.0139           |
| 497 | 498 Syracuse | 223 | 0     | 252.99988 | 115.99987908999998 |
| 498 | 499 Syracuse | 176 | 0     | 284.38393 | 113.35579199999997 |
| 499 | 500 Syracuse | 582 | 4     | 1144.164  | 737.928            |
| 500 | 501 Syracuse | 0   | 0     | 0         | 0                  |
| 501 | 502 Geddes   | 634 | 0     | 1423.0007 | 984.0008           |
| 502 | 503 Syracuse | 45  | 0     | 63.409067 | 25.568180999999996 |
| 503 | 504 Syracuse | 290 | 49    | 769.32109 | 230.4689           |
| 504 | 505 Geddes   | 743 | 1     | 1605.6809 | 1112.007           |
| 505 | 506 Camillus | 183 | 0     | 366.00016 | 283.00012674000004 |
| 506 | 507 Syracuse | 0   | 0     | 0         | 0                  |
| 507 | 508 Syracuse | 228 | 0     | 263.497   | 245.7485           |
| 508 | 509 Syracuse | 40  | 0     | 84.102539 | 63.58970800000001  |
| 509 | 510 Syracuse | 339 | 97    | 524.63772 | 181.94043215999997 |
| 510 | 511 Syracuse | 111 | 0     | 170.99985 | 69.99994           |
| 511 | 512 Syracuse | 365 | 0     | 752.00038 | 506.0003           |
| 512 | 513 Dewitt   | 14  | 0     | 28.00001  | 16.00001           |
| 513 | 514 Syracuse | 568 | 0     | 1242.812  | 648.8579           |
| 514 | 515 Syracuse | 103 | 0     | 178.99996 | 77.00003           |
| 515 | 516 Geddes   | 0   | 0     | 0         | 0                  |



| TAZ  | Town_City     | HH  | HH_GQ | pop       | veh                |
|------|---------------|-----|-------|-----------|--------------------|
| 516  | 517 Geddes    | 481 | 0     | 1061.029  | 674.0063           |
| 517  | 518 Syracuse  | 0   | 0     | 0         | 0                  |
| 518  | 519 Dewitt    | 85  | 0     | 179.1074  | 112.3216           |
| 519  | 520 Syracuse  | 398 | 0     | 682.2854  | 506.72671062000006 |
| 520  | 521 Dewitt    | 0   | 0     | 0         | 0                  |
| 521  | 522 Syracuse  | 307 | 103   | 799.5663  | 236.44255840000002 |
| 522  | 523 Syracuse  | 334 | 0     | 920.48801 | 207.7557           |
| 523  | 524 Syracuse  | 608 | 9     | 1455.2132 | 375.81865631999995 |
| 524  | 525 Syracuse  | 485 | 0     | 1058.816  | 682.5920506499999  |
| 1108 | 1114 Camillus | 223 | 0     | 584.5302  | 403.76499527999994 |
| 1107 | 1113 Camillus | 160 | 0     | 414.4101  | 290.18637119999994 |
| 525  | 527 Syracuse  | 395 | 0     | 1001.9995 | 331.0002           |
| 526  | 528 Syracuse  | 481 | 0     | 971.0189  | 669.3918221900001  |
| 527  | 529 Syracuse  | 261 | 0     | 570.00008 | 382.0001           |
| 528  | 530 Syracuse  | 0   | 0     | 0         | 0                  |
| 529  | 531 Syracuse  | 0   | 1     | 1         | 0                  |
| 530  | 532 Syracuse  | 438 | 0     | 1003.2910 | 346.7918           |
| 531  | 533 Manlius   | 736 | 5     | 1784.9097 | 1293.216           |
| 532  | 534 Syracuse  | 0   | 0     | 0         | 0                  |
| 533  | 535 Syracuse  | 277 | 0     | 578.9099  | 393.5791           |
| 534  | 536 Dewitt    | 0   | 6     | 6         | 0                  |
| 535  | 537 Syracuse  | 346 | 2     | 764.7952  | 505.5387315999999  |
| 536  | 538 Syracuse  | 302 | 0     | 715.26332 | 239.4145           |
| 537  | 539 Syracuse  | 223 | 0     | 606.56024 | 192.2756           |
| 538  | 540 Syracuse  | 301 | 0     | 691.7023  | 506.318            |
| 539  | 541 Syracuse  | 104 | 0     | 243.3208  | 177.5849           |
| 540  | 542 Syracuse  | 446 | 0     | 938.79100 | 651.0808216199999  |
| 541  | 543 Dewitt    | 501 | 0     | 1067.869  | 642.7172187000001  |
| 542  | 544 Syracuse  | 359 | 4     | 713.07474 | 494.8646521299999  |
| 543  | 545 Syracuse  | 370 | 0     | 869.3005  | 419.7312           |
| 544  | 546 Syracuse  | 0   | 0     | 0         | 0                  |
| 545  | 547 Syracuse  | 373 | 0     | 705.0008  | 483.0005           |
| 546  | 548 Dewitt    | 318 | 0     | 686.9997  | 411.99981420000006 |
| 547  | 549 Dewitt    | 440 | 2     | 931.66161 | 564.1537           |
| 548  | 550 Geddes    | 110 | 0     | 222.97285 | 178.37828799999997 |
| 549  | 551 Syracuse  | 201 | 0     | 421.90074 | 151.24755539999998 |
| 550  | 552 Syracuse  | 309 | 0     | 768.9999  | 341.99990219999995 |
| 551  | 553 Syracuse  | 330 | 34    | 737.51657 | 475.9616730000001  |
| 552  | 554 Syracuse  | 440 | 4     | 1021.7468 | 353.7836           |
| 553  | 555 Camillus  | 350 | 8     | 764.5867  | 575.2995           |
| 554  | 556 Camillus  | 312 | 0     | 801.6515  | 631.7724           |
| 555  | 557 Camillus  | 146 | 0     | 313.0003  | 256.00015804000003 |
| 556  | 558 Syracuse  | 414 | 0     | 932.9999  | 687.0000207600001  |



| TAZ | Town_City    | HH  | HH_GQ | pop       | veh                |
|-----|--------------|-----|-------|-----------|--------------------|
| 557 | 559 Geddes   | 0   | 0     | 0         | 0                  |
| 558 | 560 Manlius  | 148 | 0     | 341.9997  | 270.9999           |
| 559 | 561 Syracuse | 385 | 0     | 937.43470 | 310.8074           |
| 560 | 562 Manlius  | 335 | 0     | 828.5269  | 588.2439870000001  |
| 561 | 563 Syracuse | 656 | 0     | 1481.519  | 730.2269           |
| 562 | 564 Syracuse | 253 | 0     | 539.9998  | 302.9998           |
| 563 | 565 Syracuse | 311 | 0     | 541.7422  | 440.41628383000005 |
| 564 | 566 Syracuse | 270 | 0     | 573.87377 | 433.39427190000004 |
| 565 | 567 Syracuse | 334 | 0     | 830.51374 | 371.8868           |
| 566 | 568 Elbridge | 77  | 0     | 191.4869  | 150.9606           |
| 567 | 569 Elbridge | 205 | 0     | 407.01456 | 336.3592           |
| 568 | 570 Syracuse | 610 | 0     | 925.00005 | 584.0001469000002  |
| 569 | 571 Syracuse | 543 | 0     | 1117.0570 | 627.1548404700001  |
| 570 | 572 Syracuse | 610 | 9     | 1201.3177 | 458.73594540000005 |
| 571 | 573 Dewitt   | 307 | 9     | 720.15131 | 492.5597           |
| 572 | 574 Syracuse | 412 | 14    | 741.28599 | 433.27671000000004 |
| 573 | 575 Syracuse | 397 | 7     | 909.3615  | 501.4212           |
| 574 | 576 Dewitt   | 333 | 0     | 741.9996  | 524.9998           |
| 575 | 577 Syracuse | 126 | 0     | 303.1878  | 177.1876           |
| 576 | 578 Syracuse | 107 | 0     | 255       | 147.99999250000002 |
| 577 | 579 Syracuse | 511 | 0     | 1086.1257 | 609.1924           |
| 578 | 580 Syracuse | 0   | 0     | 0         | 0                  |
| 579 | 581 Syracuse | 0   | 2     | 2         | 0                  |
| 580 | 582 Syracuse | 120 | 0     | 278.31906 | 155.29391999999999 |
| 581 | 583 Syracuse | 162 | 0     | 345.7317  | 197.56088892000002 |
| 582 | 584 Syracuse | 368 | 78    | 872.7452  | 495.6186758399999  |
| 583 | 585 Dewitt   | 1   | 0     | 1         | 1                  |
| 584 | 586 Dewitt   | 2   | 0     | 4         | 3                  |
| 585 | 587 Syracuse | 42  | 4     | 90.7392   | 57.521801399999994 |
| 586 | 588 Syracuse | 81  | 0     | 201.5121  | 116.5609           |
| 587 | 589 Syracuse | 53  | 0     | 128.4231  | 67.2693            |
| 588 | 590 Syracuse | 256 | 3     | 581.4805  | 321.4882           |
| 589 | 591 Syracuse | 271 | 0     | 541.9996  | 355.99967574000004 |
| 590 | 592 Salina   | 690 | 3     | 1402.913  | 915.0210267000001  |
| 591 | 593 Dewitt   | 476 | 0     | 771.62057 | 621.3048167200001  |
| 592 | 594 Dewitt   | 373 | 7     | 857.04715 | 615.4497911200001  |
| 593 | 595 Manlius  | 660 | 0     | 1380.1821 | 1052.1884340000001 |
| 594 | 596 Dewitt   | 197 | 0     | 395.99956 | 285.99967499999997 |
| 595 | 597 Syracuse | 94  | 0     | 207.78945 | 119.72628660000001 |
| 596 | 598 Syracuse | 101 | 0     | 224.22    | 123.22             |
| 597 | 599 Dewitt   | 74  | 0     | 126.71234 | 95.28768           |
| 598 | 600 Syracuse | 328 | 0     | 674.00008 | 439.00006096000004 |
| 599 | 601 Syracuse | 232 | 6     | 532.6497  | 324.9958           |



| TAZ  | Town_City     | HH  | HH_GQ | pop       | veh                |
|------|---------------|-----|-------|-----------|--------------------|
| 600  | 602 Syracuse  | 88  | 0     | 177.0002  | 114.00008399999999 |
| 601  | 603 Syracuse  | 245 | 8     | 552.0153  | 329.8817           |
| 602  | 604 Syracuse  | 299 | 10    | 666.8349  | 402.2031509599999  |
| 603  | 605 Salina    | 93  | 0     | 192.00007 | 125.00007240000001 |
| 604  | 606 Salina    | 572 | 0     | 1265.2114 | 795.39             |
| 605  | 607 Dewitt    | 52  | 0     | 100.0754  | 75.54712           |
| 606  | 608 Salina    | 0   | 0     | 0         | 0                  |
| 607  | 609 Salina    | 3   | 0     | 3         | 3                  |
| 608  | 610 Dewitt    | 3   | 0     | 3         | 3                  |
| 609  | 611 Dewitt    | 43  | 0     | 107.50006 | 74.73813           |
| 610  | 612 Camillus  | 95  | 6     | 241.4931  | 190.0001           |
| 611  | 613 Camillus  | 55  | 0     | 153.5848  | 116.2264           |
| 612  | 614 Camillus  | 172 | 0     | 404.2555  | 341.8097           |
| 613  | 615 Camillus  | 351 | 0     | 973.22813 | 734.9067273600001  |
| 614  | 616 Dewitt    | 653 | 0     | 1516.001  | 1077               |
| 615  | 617 Van Buren | 19  | 0     | 48.55559  | 34.83335           |
| 616  | 618 Van Buren | 67  | 0     | 170.0001  | 133.00009870000002 |
| 617  | 619 Salina    | 59  | 0     | 115.9655  | 75.27588159999999  |
| 618  | 620 Salina    | 0   | 0     | 0         | 0                  |
| 619  | 621 Dewitt    | 1   | 0     | 4         | 2                  |
| 620  | 622 Dewitt    | 0   | 0     | 0         | 0                  |
| 621  | 623 Manlius   | 494 | 0     | 1235.5020 | 890.8040179999999  |
| 622  | 624 Manlius   | 61  | 0     | 142.3332  | 105.73325810000001 |
| 623  | 625 Manlius   | 69  | 0     | 159.6856  | 117.3              |
| 624  | 626 Manlius   | 290 | 0     | 713.53978 | 547.1135           |
| 625  | 627 Salina    | 796 | 0     | 1459.8331 | 961.2072528000001  |
| 626  | 628 Salina    | 394 | 0     | 876.22395 | 550.3970313200001  |
| 1097 | 1103 Salina   | 0   | 0     | 0         | 0                  |
| 1096 | 1102 Salina   | 0   | 0     | 0         | 0                  |
| 1098 | 1104 Salina   | 290 | 0     | 661.9997  | 398.9998           |
| 627  | 630 Salina    | 0   | 0     | 0         | 0                  |
| 628  | 631 Dewitt    | 13  | 0     | 22.99999  | 15.99999           |
| 629  | 632 Dewitt    | 40  | 0     | 91.282000 | 65.64098           |
| 630  | 633 Salina    | 17  | 0     | 38.25     | 23.375             |
| 631  | 634 Salina    | 0   | 0     | 0         | 0                  |
| 632  | 635 Salina    | 71  | 0     | 169.3858  | 101.4286           |
| 633  | 636 Van Buren | 61  | 0     | 165.7168  | 124.03342890000002 |
| 634  | 637 Salina    | 474 | 0     | 1053.554  | 645.277            |
| 635  | 638 Dewitt    | 10  | 0     | 27.777749 | 15.555539999999997 |
| 636  | 639 Geddes    | 396 | 0     | 949.6026  | 707.2144           |
| 637  | 640 Salina    | 251 | 0     | 506.01600 | 321.28000000000003 |
| 638  | 641 Sullivan  | 145 | 0     | 306.9999  | 261.9999           |
| 639  | 642 Geddes    | 440 | 1     | 1008.2899 | 772.7563799999999  |



| TAZ | Town_City     | HH   | HH_GQ | pop       | veh                |
|-----|---------------|------|-------|-----------|--------------------|
| 640 | 643 Sullivan  | 86   | 0     | 214.99987 | 170.97612700000002 |
| 641 | 644 Dewitt    | 0    | 15    | 15        | 0                  |
| 642 | 645 Salina    | 78   | 0     | 188.0002  | 110.00007719999999 |
| 643 | 646 Salina    | 534  | 0     | 1194.761  | 721.6477388399999  |
| 644 | 647 Salina    | 19   | 0     | 48.99999  | 25.99999           |
| 645 | 648 Salina    | 236  | 0     | 505.00008 | 311                |
| 646 | 649 Salina    | 4    | 0     | 10        | 7                  |
| 647 | 650 Dewitt    | 188  | 0     | 499.3121  | 336.58088943999996 |
| 648 | 651 Dewitt    | 29   | 0     | 54.000032 | 41.00003           |
| 649 | 652 Salina    | 36   | 0     | 84.34297  | 54.51436439999999  |
| 650 | 653 Van Buren | 22   | 0     | 55.00005  | 44.00005           |
| 651 | 654 Salina    | 490  | 0     | 985.9993  | 707.9994368999999  |
| 652 | 655 Salina    | 603  | 0     | 1394.686  | 836.6120228699999  |
| 653 | 656 Elbridge  | 244  | 0     | 605.99990 | 461.0001           |
| 654 | 657 Salina    | 308  | 2     | 528.5811  | 397.41965647999996 |
| 655 | 658 Salina    | 419  | 0     | 903.15554 | 666.5908           |
| 656 | 659 Sullivan  | 70   | 0     | 142.99999 | 120.99999799999999 |
| 657 | 660 Sullivan  | 168  | 0     | 326.00003 | 292                |
| 658 | 661 Salina    | 3    | 0     | 4.5       | 4.5                |
| 659 | 662 Salina    | 54   | 0     | 131.0001  | 91.00008720000001  |
| 660 | 663 Salina    | 68   | 0     | 99.00008  | 82.00007           |
| 661 | 664 Salina    | 116  | 0     | 236.03479 | 177.53043680000002 |
| 662 | 665 Salina    | 154  | 0     | 288.0001  | 231.0001           |
| 663 | 666 Geddes    | 247  | 0     | 598.00004 | 445.99992190000006 |
| 664 | 667 Salina    | 518  | 3     | 1198.767  | 810.7404           |
| 665 | 668 Dewitt    | 17   | 0     | 37.1875   | 25.5               |
| 666 | 669 Van Buren | 145  | 0     | 369.5483  | 288.9929           |
| 667 | 670 Van Buren | 61   | 0     | 159.3869  | 121.01602120000001 |
| 668 | 671 Sullivan  | 175  | 0     | 453.5917  | 354.02274600000004 |
| 669 | 672 Dewitt    | 0    | 0     | 0         | 0                  |
| 670 | 673 Dewitt    | 13   | 23    | 46.472212 | 18.41666           |
| 671 | 674 Manlius   | 168  | 0     | 425.46747 | 319.10062800000003 |
| 672 | 675 Manlius   | 225  | 7     | 521.00874 | 408.2975           |
| 673 | 676 Salina    | 330  | 6     | 767.1616  | 451.7861568000001  |
| 674 | 677 Salina    | 417  | 0     | 855.0003  | 653.0003368499999  |
| 675 | 678 Van Buren | 84   | 0     | 203.00002 | 161.99995560000002 |
| 676 | 679 Salina    | 1000 | 0     | 2291.2893 | 1667.666           |
| 677 | 680 Salina    | 180  | 0     | 414.9999  | 296.99991000000006 |
| 678 | 681 Salina    | 485  | 0     | 1155.382  | 828.7086           |
| 679 | 682 Van Buren | 28   | 0     | 68.551728 | 46.344841200000005 |
| 680 | 683 Salina    | 271  | 7     | 634.78426 | 423.07205650000003 |
| 681 | 684 Salina    | 103  | 0     | 225.99999 | 177.99998354000002 |
| 682 | 685 Salina    | 312  | 7     | 670.975   | 502.125            |



| TAZ  | Town_City     | HH  | HH_GQ | pop       | veh                |
|------|---------------|-----|-------|-----------|--------------------|
| 683  | 686 Dewitt    | 67  | 0     | 135.9999  | 103.9999           |
| 684  | 687 Salina    | 285 | 0     | 525       | 395.00005919999995 |
| 685  | 688 Van Buren | 181 | 0     | 485.3189  | 364.9837           |
| 686  | 689 Van Buren | 0   | 0     | 0         | 0                  |
| 687  | 690 Dewitt    | 13  | 0     | 24.99999  | 17.99999           |
| 688  | 691 Dewitt    | 2   | 0     | 5         | 3                  |
| 689  | 692 Salina    | 273 | 19    | 571.5447  | 440.35294211999997 |
| 690  | 693 Salina    | 470 | 0     | 773.3544  | 653.609            |
| 691  | 694 Geddes    | 11  | 0     | 26.4      | 19.8               |
| 692  | 695 Salina    | 4   | 0     | 9         | 6                  |
| 693  | 696 Van Buren | 2   | 0     | 4         | 4                  |
| 694  | 697 Salina    | 200 | 0     | 453       | 356                |
| 695  | 698 Salina    | 286 | 0     | 700.99995 | 536                |
| 696  | 699 Sullivan  | 70  | 0     | 151.9999  | 127.99994899999999 |
| 697  | 700 Van Buren | 183 | 0     | 398.8203  | 298.3694           |
| 698  | 701 Salina    | 552 | 0     | 1178      | 884.9997628800002  |
| 1101 | 1107 Clay     | 10  | 0     | 22        | 14                 |
| 1102 | 1108 Clay     | 50  | 0     | 104.08157 | 71.42853           |
| 699  | 703 Van Buren | 103 | 0     | 275.00005 | 205.0001           |
| 700  | 704 Geddes    | 104 | 6     | 258.97277 | 189.2611           |
| 701  | 705 Salina    | 546 | 5     | 1104.928  | 730.3125101999999  |
| 702  | 706 Salina    | 4   | 0     | 6         | 4                  |
| 703  | 707 Geddes    | 0   | 0     | 0         | 0                  |
| 704  | 708 Van Buren | 471 | 0     | 1064.739  | 776.3514524699999  |
| 705  | 709 Clay      | 42  | 0     | 92.000029 | 74.00003           |
| 706  | 710 Clay      | 47  | 0     | 67.14286  | 57.071432600000001 |
| 707  | 711 Salina    | 30  | 0     | 70.34482  | 53.7931            |
| 1099 | 1105 Salina   | 0   | 0     | 0         | 0                  |
| 1100 | 1106 Salina   | 4   | 0     | 12        | 8                  |
| 708  | 713 Clay      | 154 | 0     | 379.0767  | 291.8459           |
| 709  | 714 Clay      | 1   | 0     | 4         | 2                  |
| 710  | 715 Clay      | 224 | 0     | 446.00005 | 359.99999615999997 |
| 711  | 716 Cicero    | 9   | 0     | 14.999984 | 10.99999           |
| 712  | 717 Van Buren | 197 | 0     | 467.0003  | 340.00025514000004 |
| 713  | 718 Van Buren | 14  | 0     | 37.33336  | 25.20001           |
| 714  | 719 Cicero    | 16  | 0     | 36.26665  | 25.59999           |
| 715  | 720 Cicero    | 29  | 0     | 68        | 47.000001299999994 |
| 716  | 721 Cicero    | 16  | 0     | 46        | 29                 |
| 717  | 722 Van Buren | 160 | 0     | 355       | 261                |
| 718  | 723 Salina    | 652 | 0     | 1581.5755 | 1175.198           |
| 719  | 724 Salina    | 38  | 0     | 106.81070 | 74.97290179999999  |
| 720  | 725 Clay      | 368 | 0     | 623.30600 | 508.6177           |
| 721  | 726 Clay      | 376 | 0     | 813.9996  | 588.9996           |



| TAZ | Town_City     | HH   | HH_GQ | pop       | veh                |
|-----|---------------|------|-------|-----------|--------------------|
| 722 | 727 Clay      | 223  | 0     | 513.30200 | 368.65316359999997 |
| 723 | 728 Cicero    | 0    | 0     | 0         | 0                  |
| 724 | 729 Salina    | 446  | 6     | 853.49889 | 709.051            |
| 725 | 730 Salina    | 72   | 0     | 154.8493  | 125.2603           |
| 726 | 731 Clay      | 273  | 0     | 680.493   | 527.9340884999999  |
| 727 | 732 Clay      | 8    | 0     | 18        | 9                  |
| 728 | 733 Clay      | 0    | 0     | 0         | 0                  |
| 729 | 734 Cicero    | 1    | 0     | 1         | 1                  |
| 730 | 735 Cicero    | 170  | 0     | 354.91245 | 250.5265           |
| 731 | 736 Clay      | 550  | 7     | 1200.807  | 828.4565           |
| 732 | 737 Cicero    | 10   | 0     | 15.45453  | 11.81817           |
| 733 | 738 Lysander  | 195  | 0     | 475.24575 | 383.6065           |
| 734 | 739 Lysander  | 99   | 0     | 236.3878  | 192.94899030000002 |
| 735 | 740 Clay      | 510  | 0     | 816       | 624.9999510000001  |
| 736 | 741 Van Buren | 200  | 0     | 367       | 299                |
| 737 | 742 Salina    | 606  | 0     | 989.36681 | 910.4969           |
| 738 | 743 Cicero    | 418  | 0     | 858.99974 | 625.9997678000001  |
| 739 | 744 Cicero    | 28   | 0     | 49.777730 | 40.444404000000006 |
| 740 | 745 Clay      | 222  | 0     | 522.0002  | 414.0001           |
| 741 | 746 Clay      | 443  | 0     | 1010.2806 | 713.6111572000001  |
| 742 | 747 Clay      | 739  | 0     | 1259.6590 | 1057.0636859899998 |
| 743 | 748 Clay      | 1    | 0     | 2         | 2                  |
| 744 | 749 Clay      | 56   | 0     | 105.99994 | 75.99995200000001  |
| 745 | 750 Clay      | 1462 | 8     | 3113.8712 | 2073.93            |
| 746 | 751 Cicero    | 0    | 0     | 0         | 0                  |
| 747 | 752 Cicero    | 315  | 5     | 665.5156  | 466.5938           |
| 748 | 753 Clay      | 288  | 0     | 684.6593  | 528.5274           |
| 749 | 754 Clay      | 586  | 0     | 1380.3562 | 931.5901597999998  |
| 750 | 755 Clay      | 389  | 0     | 951.55491 | 741.0957645000001  |
| 751 | 756 Clay      | 6    | 0     | 11.00001  | 11.00001           |
| 752 | 757 Van Buren | 693  | 0     | 1351.298  | 1057.36            |
| 753 | 758 Cicero    | 57   | 0     | 134.6379  | 89.43103           |
| 754 | 759 Cicero    | 146  | 0     | 298.0001  | 216.00005040000002 |
| 755 | 760 Cicero    | 195  | 0     | 429.5942  | 298.93414199999995 |
| 756 | 761 Clay      | 536  | 0     | 1375.8657 | 992.2970144000002  |
| 757 | 762 Clay      | 363  | 0     | 922.91553 | 651.4112           |
| 758 | 763 Salina    | 205  | 0     | 479.3241  | 373.3577           |
| 759 | 764 Lysander  | 280  | 0     | 694.1883  | 525.1317680000001  |
| 760 | 765 Cicero    | 9    | 0     | 24.75     | 16.875             |
| 761 | 766 Cicero    | 49   | 0     | 89.179999 | 70.55999999999999  |
| 762 | 767 Van Buren | 79   | 0     | 184.6625  | 134.29999999999998 |
| 763 | 768 Clay      | 243  | 0     | 597.4591  | 444.8308184999999  |
| 764 | 769 Cicero    | 124  | 0     | 286.688   | 210.30399999999997 |



| TAZ | Town_City     | HH  | HH_GQ | pop       | veh                 |
|-----|---------------|-----|-------|-----------|---------------------|
| 765 | 770 Cicero    | 37  | 0     | 83.25007  | 57.5556090000000004 |
| 766 | 771 Van Buren | 651 | 0     | 1310.9999 | 994.9999            |
| 767 | 772 Van Buren | 179 | 0     | 427.61123 | 350.0444            |
| 768 | 773 Van Buren | 111 | 0     | 266.598   | 216.0534            |
| 769 | 774 Clay      | 464 | 0     | 1089      | 789.9998158400001   |
| 770 | 775 Van Buren | 257 | 0     | 471.0001  | 379.00003309999994  |
| 771 | 776 Van Buren | 47  | 0     | 112.22458 | 89.20416            |
| 772 | 777 Van Buren | 27  | 0     | 64.999970 | 53.9999730000000004 |
| 773 | 778 Clay      | 497 | 0     | 1170.645  | 800.3902704000001   |
| 774 | 779 Clay      | 134 | 0     | 327.9999  | 216                 |
| 775 | 780 Cicero    | 140 | 0     | 334.6097  | 261.1346            |
| 776 | 781 Clay      | 215 | 0     | 514.6067  | 389.19              |
| 777 | 782 Clay      | 473 | 0     | 1070.5270 | 822.4781501200002   |
| 778 | 783 Cicero    | 25  | 0     | 51.923085 | 36.538465000000001  |
| 779 | 784 Cicero    | 420 | 3     | 852.90544 | 620.0943            |
| 780 | 785 Clay      | 549 | 0     | 1419.585  | 1033.883            |
| 781 | 786 Lysander  | 262 | 0     | 787.11022 | 535.1016            |
| 782 | 787 Lysander  | 415 | 0     | 1006.061  | 761.8815265000001   |
| 783 | 788 Clay      | 304 | 0     | 731.9999  | 560.9999            |
| 784 | 789 Clay      | 88  | 0     | 235.32551 | 175.99980639999998  |
| 785 | 790 Van Buren | 123 | 0     | 300.98815 | 185.2234            |
| 786 | 791 Clay      | 416 | 0     | 976.3459  | 735.768             |
| 787 | 792 Cicero    | 227 | 0     | 621.9999  | 425.99991320000004  |
| 788 | 793 Clay      | 3   | 0     | 3         | 3                   |
| 789 | 794 Clay      | 391 | 0     | 958.9996  | 710.9996785000001   |
| 790 | 795 Clay      | 743 | 5     | 2090.163  | 1524.689            |
| 791 | 796 Van Buren | 59  | 0     | 133.99984 | 98.99989            |
| 792 | 797 Van Buren | 122 | 0     | 319.9622  | 192.20749859999998  |
| 793 | 798 Van Buren | 717 | 0     | 1042.534  | 813.1491407399998   |
| 794 | 799 Clay      | 5   | 0     | 5         | 5                   |
| 795 | 800 Lysander  | 543 | 0     | 1642.1202 | 1112.241            |
| 796 | 801 Cicero    | 447 | 9     | 1162.3585 | 843.8966            |
| 797 | 802 Clay      | 88  | 0     | 203.99982 | 152.9999            |
| 798 | 803 Clay      | 228 | 0     | 505.2158  | 407.7884            |
| 799 | 804 Cicero    | 39  | 0     | 81.079    | 70.81583            |
| 800 | 805 Cicero    | 0   | 0     | 0         | 0                   |
| 801 | 806 Cicero    | 7   | 0     | 18.200000 | 14                  |
| 802 | 807 Cicero    | 510 | 0     | 1108.9999 | 805.0001            |
| 803 | 808 Clay      | 260 | 4     | 665.36841 | 493.30777600000001  |
| 804 | 809 Van Buren | 386 | 15    | 904.8116  | 567.0274            |
| 805 | 810 Van Buren | 110 | 0     | 243.7837  | 157.56747159999998  |
| 806 | 811 Van Buren | 93  | 0     | 234.00019 | 142.0001            |
| 807 | 812 Van Buren | 282 | 0     | 760.69852 | 574.0362            |



| TAZ | Town_City     | HH   | HH_GQ | pop       | veh                |
|-----|---------------|------|-------|-----------|--------------------|
| 808 | 813 Clay      | 1258 | 3     | 2999.092  | 2237.109           |
| 809 | 814 Van Buren | 125  | 0     | 300       | 187                |
| 810 | 815 Lysander  | 215  | 4     | 652.08614 | 441.3157           |
| 811 | 816 Lysander  | 101  | 0     | 285.9778  | 197.46082769999998 |
| 812 | 817 Cicero    | 466  | 0     | 834.9999  | 722.9998           |
| 813 | 818 Sullivan  | 22   | 0     | 56        | 45.00001           |
| 814 | 819 Sullivan  | 46   | 0     | 93.02222  | 79.73332           |
| 815 | 820 Clay      | 29   | 0     | 70.999960 | 49.99999           |
| 816 | 821 Lysander  | 104  | 0     | 196.89319 | 155.4951           |
| 817 | 822 Lysander  | 85   | 0     | 191.25007 | 139.6428           |
| 818 | 823 Lysander  | 186  | 0     | 416.00004 | 309                |
| 819 | 824 Lysander  | 192  | 0     | 431.46076 | 351.6404           |
| 820 | 825 Lysander  | 134  | 0     | 319.61449 | 227.30347640000002 |
| 821 | 826 Clay      | 390  | 0     | 1030.358  | 748.0812689999999  |
| 822 | 827 Clay      | 614  | 0     | 1664.9990 | 1185               |
| 823 | 828 Cicero    | 603  | 0     | 1643.7274 | 1150.91            |
| 824 | 829 Clay      | 103  | 0     | 221.14705 | 180.7549           |
| 825 | 830 Cicero    | 212  | 0     | 487.6994  | 375.23             |
| 826 | 831 Clay      | 615  | 0     | 1605.776  | 1162.2191095500002 |
| 827 | 832 Clay      | 1    | 0     | 1         | 1                  |
| 828 | 833 Clay      | 319  | 0     | 911.999   | 639.9993           |
| 829 | 834 Cicero    | 218  | 0     | 443       | 354                |
| 830 | 835 Lysander  | 180  | 0     | 475.9998  | 365.9998           |
| 831 | 836 Lysander  | 305  | 0     | 790.30374 | 593.149            |
| 832 | 837 Clay      | 528  | 0     | 1344.546  | 889.6845988799998  |
| 833 | 838 Clay      | 409  | 0     | 1115.1547 | 807.0345054999999  |
| 834 | 839 Lysander  | 184  | 0     | 457.1779  | 331.8774           |
| 835 | 840 Lysander  | 60   | 0     | 123       | 95                 |
| 836 | 841 Clay      | 966  | 0     | 2668.2387 | 1862.073           |
| 837 | 842 Lysander  | 254  | 0     | 526.2153  | 397.6974           |
| 838 | 843 Sullivan  | 161  | 0     | 340.45872 | 290.21029723000004 |
| 839 | 844 Lysander  | 308  | 0     | 869.99947 | 577.9998           |
| 840 | 845 Lysander  | 172  | 0     | 508.00016 | 327.0002           |
| 841 | 846 Lysander  | 623  | 4     | 1599.01   | 1113.354           |
| 842 | 847 Lysander  | 155  | 0     | 340.1947  | 258.6687           |
| 843 | 848 Lysander  | 143  | 0     | 364.9998  | 286.9999           |
| 844 | 849 Cicero    | 230  | 0     | 549.3889  | 421.83430599999997 |
| 845 | 850 Cicero    | 504  | 0     | 1082.8517 | 842.3289503999999  |
| 846 | 851 Clay      | 1079 | 2     | 2793.24   | 2106.145           |
| 847 | 852 Cicero    | 93   | 0     | 252.71757 | 167.8045           |
| 848 | 853 Cicero    | 150  | 0     | 316.9997  | 226.99983300000002 |
| 849 | 854 Cicero    | 31   | 0     | 86.79995  | 57.86664           |
| 850 | 855 Cicero    | 352  | 0     | 1071.955  | 684.0568           |



| TAZ  | Town_City    | HH   | HH_GQ | pop       | veh                |
|------|--------------|------|-------|-----------|--------------------|
| 851  | 856 Cicero   | 133  | 0     | 374.00009 | 246.00001859999998 |
| 852  | 857 Clay     | 357  | 0     | 699.042   | 631.2321168300001  |
| 853  | 858 Clay     | 729  | 0     | 1879.158  | 1422.905           |
| 854  | 859 Clay     | 1046 | 0     | 2343.9994 | 1695               |
| 855  | 860 Sullivan | 120  | 0     | 307.05883 | 241.17642719999998 |
| 856  | 861 Clay     | 649  | 0     | 1937.002  | 1318.001           |
| 857  | 862 Clay     | 8    | 0     | 18.285695 | 14.85713           |
| 858  | 863 Clay     | 228  | 0     | 596.0004  | 448.0003           |
| 859  | 864 Clay     | 118  | 0     | 287.3045  | 225.7393           |
| 860  | 865 Sullivan | 67   | 0     | 150.24258 | 124.86373929999999 |
| 861  | 866 Cicero   | 422  | 0     | 1113      | 784.0001243999999  |
| 862  | 867 Clay     | 156  | 0     | 365.2678  | 289.17044519999996 |
| 863  | 868 Clay     | 99   | 0     | 212.85000 | 178.2              |
| 864  | 869 Lysander | 292  | 0     | 841.1198  | 572.0412           |
| 865  | 870 Lysander | 601  | 0     | 1359.7103 | 986.7491455000002  |
| 866  | 871 Cicero   | 16   | 0     | 39        | 29                 |
| 867  | 872 Cicero   | 6    | 0     | 13.200000 | 9.600000000000001  |
| 868  | 873 Cicero   | 572  | 0     | 1613.931  | 1079.1440660000003 |
| 869  | 874 Cicero   | 263  | 0     | 575.9919  | 460.79340533999994 |
| 870  | 875 Cicero   | 450  | 0     | 1261.4763 | 844.1458           |
| 871  | 876 Clay     | 0    | 0     | 0         | 0                  |
| 872  | 877 Clay     | 0    | 0     | 0         | 0                  |
| 873  | 878 Lysander | 524  | 0     | 897.7126  | 700.3362           |
| 874  | 879 Clay     | 99   | 0     | 216.81000 | 178.2              |
| 875  | 880 Clay     | 2    | 0     | 4         | 4                  |
| 876  | 881 Clay     | 7    | 0     | 16.999982 | 13.999985999999996 |
| 877  | 882 Clay     | 64   | 0     | 151.6307  | 118.1538           |
| 878  | 883 Lysander | 19   | 0     | 54.99997  | 39.99998           |
| 879  | 884 Cicero   | 924  | 0     | 2550.764  | 1790.94            |
| 880  | 885 Cicero   | 283  | 0     | 793.1976  | 550.0566289999999  |
| 881  | 886 Cicero   | 180  | 0     | 460.5589  | 327.8212740000001  |
| 882  | 887 Clay     | 277  | 0     | 415.5     | 415.5              |
| 883  | 888 Clay     | 15   | 0     | 33.21431  | 27.857163000000007 |
| 884  | 889 Clay     | 23   | 0     | 61.681860 | 46.00004           |
| 885  | 890 Lysander | 339  | 0     | 817.28687 | 608.3566           |
| 886  | 891 Lysander | 266  | 0     | 696.2625  | 528.8204           |
| 887  | 892 Lysander | 213  | 0     | 558.9993  | 428.99955120000004 |
| 888  | 893 Clay     | 26   | 0     | 64.000024 | 52.00001           |
| 889  | 894 Clay     | 6    | 0     | 10.800000 | 10.8               |
| 890  | 895 Lysander | 623  | 7     | 1398.0955 | 1031.907           |
| 891  | 896 Lysander | 249  | 0     | 664.3365  | 508.0812           |
| 1106 | 1112 Clay    | 65   | 0     | 149.3617  | 113.40425200000001 |
| 1103 | 1109 Clay    | 9    | 0     | 19.800000 | 17.1               |



|      | TAZ  | Town_City  | HH  | HH_GQ | pop       | veh                |
|------|------|------------|-----|-------|-----------|--------------------|
| 1104 | 1110 | Clay       | 12  | 0     | 26.999996 | 23.999997600000004 |
| 1105 | 1111 | Clay       | 10  | 0     | 22.72727  | 20                 |
| 892  | 898  | Clay       | 37  | 0     | 91.69565  | 70.78260949999999  |
| 893  | 899  | Clay       | 12  | 0     | 22.909093 | 22.90909           |
| 894  | 900  | Clay       | 21  | 0     | 58.8      | 44.099999999999994 |
| 895  | 901  | Clay       | 26  | 0     | 63.44     | 52                 |
| 896  | 902  | Cicero     | 403 | 0     | 1008      | 733.9999           |
| 897  | 903  | Cicero     | 93  | 0     | 181       | 141.00003420000002 |
| 898  | 904  | Cicero     | 71  | 0     | 131.8571  | 106.49997870000001 |
| 899  | 905  | Cicero     | 138 | 0     | 326.27138 | 241.49995859999999 |
| 900  | 906  | Clay       | 27  | 0     | 71.65382  | 56.076912899999996 |
| 901  | 907  | Clay       | 26  | 0     | 60.32     | 49.92              |
| 902  | 908  | Clay       | 119 | 0     | 261.80001 | 218.33914725000005 |
| 903  | 909  | Lysander   | 390 | 0     | 992.72798 | 704.0263620000001  |
| 904  | 910  | Lysander   | 81  | 0     | 181       | 155                |
| 905  | 911  | Schroepppe | 61  | 0     | 116       | 103                |
| 906  | 912  | Cicero     | 304 | 0     | 671.24847 | 518.2282832000001  |
| 907  | 913  | Cicero     | 89  | 0     | 230.5911  | 169.9092           |
| 908  | 914  | Schroepppe | 101 | 4     | 229.08576 | 153.9048           |
| 909  | 915  | Lysander   | 138 | 0     | 375.0001  | 287.0002           |
| 910  | 916  | Cicero     | 493 | 0     | 1354.253  | 936.1015867399999  |
| 911  | 917  | Schroepppe | 141 | 0     | 336.00012 | 216.00012780000003 |
| 912  | 918  | Clay       | 188 | 0     | 462.99997 | 358.00007159999996 |
| 913  | 919  | Clay       | 165 | 0     | 417.2901  | 314.03212499999995 |
| 914  | 920  | Schroepppe | 83  | 0     | 200.00007 | 128.0001           |
| 915  | 921  | Schroepppe | 90  | 0     | 205.7141  | 137.4724           |
| 916  | 922  | Clay       | 119 | 0     | 305.3857  | 229.39773989999998 |
| 917  | 923  | Clay       | 28  | 0     | 66.62062  | 55.034422799999994 |
| 918  | 924  | Schroepppe | 162 | 0     | 378.67499 | 243                |
| 919  | 925  | Schroepppe | 77  | 0     | 146.90783 | 101.3157           |
| 920  | 926  | Schroepppe | 55  | 0     | 142.59275 | 93.70381           |
| 921  | 927  | Cicero     | 282 | 0     | 812.45804 | 555.3039           |
| 922  | 928  | Cicero     | 390 | 0     | 783.0004  | 616.0002849000001  |
| 923  | 929  | Cicero     | 408 | 0     | 1116      | 773.9999577599999  |
| 924  | 930  | Schroepppe | 83  | 0     | 174.89294 | 119.55954120000001 |
| 925  | 931  | Schroepppe | 30  | 0     | 55.862066 | 42.413807999999996 |
| 926  | 932  | Schroepppe | 51  | 0     | 132.1836  | 83.26525           |
| 927  | 933  | Cicero     | 126 | 0     | 265       | 205.99997544000001 |
| 928  | 934  | Cicero     | 136 | 0     | 306.00003 | 229.0001           |
| 929  | 935  | Schroepppe | 143 | 0     | 239.3263  | 181.7292           |
| 930  | 936  | Hastings   | 74  | 0     | 157.5142  | 138.4857           |
| 931  | 937  | Hastings   | 128 | 0     | 270.336   | 203.77599999999998 |
| 932  | 938  | Hastings   | 161 | 0     | 358.9997  | 302.9998           |



| TAZ | Town_City     | HH  | HH_GQ | pop       | veh                |
|-----|---------------|-----|-------|-----------|--------------------|
| 933 | 939 Hastings  | 92  | 0     | 210.28560 | 152.65924320000002 |
| 934 | 940 Hastings  | 143 | 0     | 366.43775 | 259.18758579999997 |
| 935 | 941 Hastings  | 224 | 0     | 291.99998 | 246.00003232000003 |
| 936 | 942 Hastings  | 103 | 0     | 235.00001 | 173                |
| 937 | 943 Hastings  | 74  | 0     | 167.0001  | 123.00010639999999 |
| 938 | 944 Hastings  | 172 | 7     | 437.96646 | 292.7866           |
| 939 | 945 Hastings  | 113 | 0     | 212.99987 | 200.99987548000001 |
| 940 | 946 Hastings  | 200 | 0     | 544.162   | 366.49713999999994 |
| 941 | 947 Hastings  | 23  | 0     | 52.708327 | 42.16666           |
| 942 | 948 Hastings  | 93  | 0     | 223.5959  | 182.0427           |
| 943 | 949 Hastings  | 22  | 0     | 54.52178  | 44.00003           |
| 944 | 950 Hastings  | 20  | 0     | 64        | 45                 |
| 945 | 951 Hastings  | 120 | 0     | 234.04955 | 217.19007599999998 |
| 946 | 952 Hastings  | 22  | 0     | 55.523802 | 42.95237099999999  |
| 947 | 953 Hastings  | 78  | 0     | 206.3545  | 158.96204219999998 |
| 948 | 954 Hastings  | 3   | 0     | 9.75      | 6.75               |
| 949 | 955 West Monr | 101 | 0     | 253.51000 | 200.99             |
| 950 | 956 Hastings  | 121 | 0     | 328.00016 | 248.0001           |
| 951 | 957 Sullivan  | 57  | 0     | 140.4643  | 111.9643           |
| 952 | 958 Sullivan  | 55  | 0     | 123       | 106                |
| 953 | 959 Sullivan  | 137 | 5     | 342.07880 | 267.1005           |
| 954 | 960 Sullivan  | 262 | 0     | 596.2758  | 501.9156           |
| 955 | 961 Sullivan  | 90  | 0     | 220.99988 | 179.9999           |
| 956 | 962 Sullivan  | 30  | 0     | 70.000019 | 60.00001           |
| 957 | 963 Sullivan  | 92  | 0     | 181.9555  | 160.48879279999997 |
| 958 | 964 Sullivan  | 295 | 0     | 703.9308  | 573.7239502499999  |
| 959 | 965 Sullivan  | 65  | 0     | 145.2344  | 123.9063           |
| 960 | 966 Sullivan  | 83  | 0     | 213.573   | 169.0365           |
| 961 | 967 Sullivan  | 174 | 0     | 385.78297 | 324.1372           |
| 962 | 968 Sullivan  | 8   | 0     | 18.285695 | 14.85713           |
| 963 | 969 Sullivan  | 35  | 0     | 81.323553 | 66.91178           |
| 964 | 970 Sullivan  | 31  | 0     | 84.28125  | 64.90625           |
| 965 | 971 Sullivan  | 16  | 0     | 42        | 33                 |
| 966 | 972 Sullivan  | 12  | 0     | 22.909076 | 18.545441999999998 |
| 967 | 973 Sullivan  | 50  | 0     | 130.39212 | 97.05879           |
| 968 | 974 Sullivan  | 42  | 0     | 103.4634  | 83.99997060000001  |
| 969 | 975 Sullivan  | 104 | 0     | 262.9997  | 200.9998           |
| 970 | 976 Sullivan  | 43  | 0     | 116.7144  | 87.02387300000001  |
| 971 | 977 Sullivan  | 90  | 0     | 232.58437 | 183.0339           |
| 972 | 978 Sullivan  | 24  | 0     | 60.000016 | 50.00001           |
| 973 | 979 Sullivan  | 40  | 0     | 94.35894  | 78.97433           |
| 974 | 980 Sullivan  | 92  | 0     | 232.9999  | 185.9999           |
| 975 | 981 Sullivan  | 70  | 0     | 175.9998  | 136.99987699999997 |



| TAZ  | Town_City      | HH  | HH_GQ | pop       | veh                |
|------|----------------|-----|-------|-----------|--------------------|
| 976  | 982 Sullivan   | 177 | 0     | 438.4774  | 342.9375           |
| 977  | 983 Sullivan   | 8   | 0     | 20        | 17                 |
| 978  | 984 Sullivan   | 85  | 0     | 208.4523  | 166.96421650000002 |
| 979  | 985 Sullivan   | 24  | 0     | 64.363667 | 46.90911           |
| 980  | 986 Sullivan   | 92  | 0     | 253.25813 | 185.0335           |
| 981  | 987 Sullivan   | 30  | 0     | 70.34478  | 56.89651199999999  |
| 982  | 988 Sullivan   | 122 | 0     | 320.5086  | 250.2034           |
| 983  | 989 Sullivan   | 125 | 0     | 321.4288  | 219.24614999999994 |
| 984  | 990 Sullivan   | 51  | 0     | 117.6924  | 99.05779           |
| 985  | 991 Sullivan   | 33  | 0     | 77.647036 | 63.08821           |
| 986  | 992 Sullivan   | 478 | 0     | 1131.367  | 795.6644600000001  |
| 987  | 993 Sullivan   | 147 | 0     | 318.3309  | 266.6274           |
| 988  | 994 Sullivan   | 74  | 0     | 160       | 115.99998759999998 |
| 989  | 995 Sullivan   | 318 | 7     | 742.4965  | 512.1164           |
| 990  | 996 Sullivan   | 463 | 0     | 1115      | 767.0000587999999  |
| 991  | 997 Sullivan   | 118 | 0     | 258.3793  | 189.20688642000002 |
| 992  | 998 Sullivan   | 295 | 5     | 793.55815 | 591.1350419999999  |
| 993  | 999 Sullivan   | 8   | 0     | 22.85712  | 19.428551999999996 |
| 994  | 1000 Sullivan  | 32  | 0     | 74.32249  | 57.80638           |
| 995  | 1001 Sullivan  | 31  | 0     | 77.999983 | 61.999978299999995 |
| 996  | 1002 Sullivan  | 31  | 0     | 78.9999   | 59.99992029999999  |
| 997  | 1003 Sullivan  | 63  | 0     | 139.2097  | 119.9032           |
| 998  | 1004 Sullivan  | 35  | 0     | 73.088263 | 67.9412            |
| 999  | 1005 Sullivan  | 21  | 0     | 50.400000 | 40.95              |
| 1000 | 1006 Sullivan  | 99  | 0     | 221.23465 | 162.6428           |
| 1001 | 1007 Sullivan  | 69  | 0     | 147       | 128.00000250000002 |
| 1002 | 1008 Sullivan  | 35  | 0     | 88.000118 | 69.0001            |
| 1003 | 1009 Granby    | 44  | 0     | 102       | 75.99998120000001  |
| 1004 | 1010 Schroeppe | 57  | 0     | 128.9999  | 103.9999           |
| 1005 | 1011 Schroeppe | 136 | 0     | 359.0001  | 267                |
| 1006 | 1012 Schroeppe | 78  | 0     | 208.32933 | 151.0635           |
| 1007 | 1013 Schroeppe | 29  | 0     | 70.88882  | 55.851804699999995 |
| 1008 | 1014 Schroeppe | 40  | 0     | 104       | 80                 |
| 1009 | 1015 Schroeppe | 34  | 0     | 78.99995  | 62.99995           |
| 1010 | 1016 Schroeppe | 17  | 0     | 39.66666  | 31.166664400000005 |
| 1011 | 1017 Schroeppe | 67  | 0     | 161.9998  | 127.99990879999999 |
| 1012 | 1018 Schroeppe | 30  | 0     | 70.64517  | 57.09679499999999  |
| 1013 | 1019 Schroeppe | 34  | 0     | 102       | 73.3125            |
| 1014 | 1020 Schroeppe | 42  | 0     | 115.5     | 86.1               |
| 1015 | 1021 Schroeppe | 66  | 0     | 170.00006 | 127.00003800000002 |
| 1016 | 1022 Schroeppe | 15  | 0     | 31.071426 | 26.78571           |
| 1017 | 1023 Schroeppe | 212 | 0     | 561.64933 | 409.93364524000003 |
| 1018 | 1024 Schroeppe | 56  | 0     | 131.7037  | 104.7408           |



| TAZ  | Town_City       | HH  | HH_GQ | pop       | veh                |
|------|-----------------|-----|-------|-----------|--------------------|
| 1019 | 1025 Schroepppe | 96  | 0     | 237.00004 | 181.00006080000003 |
| 1020 | 1026 Schroepppe | 30  | 0     | 76.071486 | 60.00005           |
| 1021 | 1027 Schroepppe | 46  | 0     | 119.59994 | 93.02215679999999  |
| 1022 | 1028 Schroepppe | 54  | 0     | 120.46160 | 97.61541119999998  |
| 1023 | 1029 Schroepppe | 199 | 0     | 424.9998  | 345.9998           |
| 1024 | 1030 Schroepppe | 46  | 0     | 99.0001   | 84.00006           |
| 1025 | 1031 Schroepppe | 55  | 0     | 138.5184  | 108.98142750000002 |
| 1026 | 1032 Schroepppe | 261 | 0     | 666.5535  | 501.9229           |
| 1027 | 1033 Schroepppe | 98  | 0     | 274.6044  | 199.0626           |
| 1028 | 1034 Schroepppe | 171 | 0     | 395.2455  | 314.3533           |
| 1029 | 1035 Schroepppe | 29  | 0     | 65.73334  | 53.16668           |
| 1030 | 1036 Schroepppe | 60  | 0     | 149.4915  | 115.9322           |
| 1031 | 1037 Schroepppe | 11  | 0     | 21.083331 | 19.25              |
| 1032 | 1038 Schroepppe | 21  | 0     | 40.949999 | 35.7               |
| 1033 | 1039 Schroepppe | 39  | 0     | 104.35126 | 79.05399           |
| 1034 | 1040 Hastings   | 69  | 0     | 162.99996 | 115.99999170000001 |
| 1035 | 1041 Hastings   | 39  | 0     | 97.499984 | 70.81578           |
| 1036 | 1042 Hastings   | 184 | 0     | 441.39871 | 322.7539           |
| 1037 | 1043 Hastings   | 54  | 0     | 149.0001  | 102.00008699999998 |
| 1038 | 1044 Hastings   | 30  | 0     | 77.142873 | 55.714290000000005 |
| 1039 | 1045 Hastings   | 12  | 0     | 28.363627 | 23.99999           |
| 1040 | 1046 Hastings   | 118 | 0     | 337.00032 | 224.00017408000002 |
| 1041 | 1047 Hastings   | 35  | 0     | 87.00008  | 64.00007           |
| 1042 | 1048 Hastings   | 18  | 0     | 55.058832 | 39.17647           |
| 1043 | 1049 Hastings   | 27  | 0     | 62.307743 | 51.92312           |
| 1044 | 1050 Hastings   | 33  | 0     | 83.47055  | 64.05878           |
| 1045 | 1051 Hastings   | 71  | 0     | 201.9999  | 146.99992650000002 |
| 1046 | 1052 Hastings   | 111 | 0     | 300.1112  | 226.1111           |
| 1047 | 1053 Hastings   | 41  | 0     | 91.761903 | 77.11904           |
| 1048 | 1054 Hastings   | 96  | 0     | 285.0309  | 202.88658239999998 |
| 1049 | 1055 Hastings   | 79  | 0     | 179.72500 | 154.05             |
| 1050 | 1056 Hastings   | 108 | 0     | 254.71716 | 210.90577824000002 |
| 1051 | 1057 Hastings   | 78  | 0     | 194.99999 | 154                |
| 1052 | 1058 Hastings   | 104 | 0     | 267       | 206.9999           |
| 1053 | 1059 Hastings   | 41  | 0     | 112.26196 | 84.92860540000001  |
| 1054 | 1060 Hastings   | 111 | 0     | 314.9998  | 231.99985680000003 |
| 1055 | 1061 Hastings   | 64  | 0     | 188       | 134                |
| 1056 | 1062 Hastings   | 12  | 0     | 20.72726  | 21.81817           |
| 1057 | 1063 Hastings   | 26  | 0     | 75.920000 | 55.120000000000005 |
| 1058 | 1064 Hastings   | 24  | 0     | 67.826164 | 50.087023200000004 |
| 1059 | 1065 Hastings   | 58  | 0     | 163.00010 | 119.00007319999999 |
| 1060 | 1066 Hastings   | 29  | 0     | 81.82143  | 61.10714           |
| 1061 | 1067 Hastings   | 89  | 0     | 223.96694 | 177.0219           |



| TAZ  | Town_City      | HH  | HH_GQ | pop       | veh                |
|------|----------------|-----|-------|-----------|--------------------|
| 1062 | 1068 West Monr | 25  | 0     | 64.42308  | 50.000012500000004 |
| 1063 | 1069 West Monr | 34  | 0     | 82.4242   | 66.96966           |
| 1064 | 1070 West Monr | 33  | 0     | 85.41172  | 65.999976900000001 |
| 1065 | 1071 West Monr | 19  | 0     | 39.055564 | 35.88889           |
| 1066 | 1072 West Monr | 59  | 0     | 129.18959 | 112.91371029999999 |
| 1067 | 1073 West Monr | 25  | 0     | 57.692360 | 50.961557500000005 |
| 1068 | 1074 West Monr | 96  | 0     | 278.7098  | 201.29042879999997 |
| 1069 | 1075 West Monr | 127 | 0     | 319.9996  | 245.9997           |
| 1070 | 1076 West Monr | 37  | 0     | 84.57151  | 69.77148           |
| 1071 | 1077 West Monr | 51  | 0     | 137.9999  | 102.9999           |
| 1072 | 1078 West Monr | 75  | 0     | 176.35130 | 145.9459           |
| 1073 | 1079 West Monr | 106 | 0     | 266.48601 | 206.05614222000003 |
| 1074 | 1080 West Monr | 49  | 0     | 125.99999 | 96.00002           |
| 1075 | 1081 West Monr | 80  | 0     | 186.6666  | 156.04929600000003 |
| 1076 | 1082 West Monr | 66  | 0     | 172.00007 | 134.00007060000002 |
| 1077 | 1083 West Monr | 69  | 0     | 187.72046 | 137.9999           |
| 1078 | 1084 West Monr | 59  | 0     | 148.9999  | 117.99995280000002 |
| 1079 | 1085 Hastings  | 37  | 0     | 95.99994  | 73.99995           |
| 1080 | 1086 West Monr | 48  | 0     | 117.00002 | 93.000024000000001 |
| 1081 | 1087 West Monr | 103 | 0     | 238.0001  | 197.00005158000002 |
| 1082 | 1088 West Monr | 82  | 0     | 193.35797 | 158.9382           |
| 1083 | 1089 West Monr | 31  | 0     | 74.39994  | 60.966618100000005 |
| 1084 | 1090 Schroeppe | 6   | 0     | 18.99999  | 13                 |
| 1085 | 1091 Schroeppe | 26  | 0     | 67.40735  | 51.99996           |
| 1086 | 1092 Schroeppe | 17  | 0     | 40.99998  | 31.999984000000005 |
| 1087 | 1093 Schroeppe | 19  | 0     | 54.76472  | 40.2353            |
| 1088 | 1094 Schroeppe | 7   | 0     | 18.99998  | 14.999984999999999 |
| 1089 | 1095 Schroeppe | 72  | 0     | 184.5634  | 137.9155           |
| 1090 | 1096 West Monr | 17  | 0     | 37.1875   | 30.8125            |
| 1091 | 1097 West Monr | 36  | 0     | 97.999970 | 70.99999199999999  |
| 1092 | 1098 Hastings  | 17  | 0     | 47.222239 | 34.944455400000001 |
| 1093 | 1099 Hastings  | 93  | 0     | 258.22341 | 193.91495099999997 |
| 1094 | 1100 Sullivan  | 24  | 0     | 54.000002 | 50.00001           |
| 1095 | 1101 Sullivan  | 21  | 0     | 61.894719 | 44.210510400000004 |
| 1109 | 8001 Geddes    | 0   | 0     | 0         | 0                  |
| 1110 | 8002 Syracuse  | 0   | 0     | 0         | 0                  |
| 1111 | 8003 Onondaga  | 0   | 571   | 571       | 0                  |
| 1112 | 8004 Onondaga  | 0   | 0     | 0         | 0                  |
| 1113 | 8005 Syracuse  | 0   | 0     | 0         | 0                  |
| 1114 | 8006 Syracuse  | 0   | 2507  | 2507      | 0                  |
| 1115 | 8007 Syracuse  | 0   | 0     | 0         | 0                  |
| 1116 | 8008 Syracuse  | 0   | 0     | 0         | 0                  |
| 1117 | 8009 Syracuse  | 0   | 0     | 0         | 0                  |



| TAZ  | Town_City HH  | HH_GQ | pop  | veh  |   |
|------|---------------|-------|------|------|---|
| 1118 | 8010 Dewitt   | 5     | 1284 | 1289 | 5 |
| 1119 | 8011 Syracuse | 0     | 0    | 0    | 0 |
| 1120 | 8012 Syracuse | 0     | 2766 | 2766 | 0 |
| 1121 | 8013 Syracuse | 0     | 0    | 0    | 0 |
| 1122 | 8014 Syracuse | 0     | 0    | 0    | 0 |
| 1123 | 8015 Syracuse | 0     | 0    | 0    | 0 |
| 1124 | 8016 Dewitt   | 0     | 0    | 0    | 0 |



| TAZ | Town_City     | HH  | HH_GQ | pop       | veh                |
|-----|---------------|-----|-------|-----------|--------------------|
| 0   | 1 Tully       | 224 | 0     | 542.96778 | 434.5806           |
| 1   | 2 Tully       | 327 | 0     | 745.643   | 611.3024           |
| 2   | 3 Tully       | 138 | 0     | 375.60914 | 276                |
| 3   | 4 Spafford    | 289 | 0     | 707.8871  | 568.2581           |
| 4   | 5 Tully       | 304 | 2     | 699.3508  | 561.7831779200001  |
| 5   | 6 Fabius      | 128 | 0     | 315.392   | 253.952            |
| 6   | 7 Fabius      | 160 | 0     | 406.6246  | 326.1149           |
| 7   | 8 Tully       | 119 | 0     | 330.19802 | 233.71160890000004 |
| 8   | 9 Fabius      | 201 | 0     | 508.6533  | 419.4339           |
| 9   | 10 Fabius     | 255 | 0     | 639.5563  | 522.3387           |
| 10  | 11 Otisco     | 116 | 0     | 284.4523  | 232.0001           |
| 11  | 12 Otisco     | 385 | 0     | 912.554   | 748.1484           |
| 12  | 13 Otisco     | 151 | 0     | 390.16750 | 312.134            |
| 13  | 14 Otisco     | 177 | 0     | 469.65393 | 372.1027           |
| 14  | 15 Otisco     | 158 | 0     | 401.99973 | 315.9998           |
| 15  | 16 Spafford   | 230 | 0     | 531.7434  | 444.1744           |
| 16  | 17 Spafford   | 209 | 0     | 491.3723  | 405.77129505000005 |
| 17  | 18 Lafayette  | 96  | 0     | 216.80903 | 173.66292479999996 |
| 18  | 19 Lafayette  | 354 | 0     | 853.2305  | 662.6152           |
| 19  | 20 Lafayette  | 157 | 5     | 421.34753 | 302.07552501000004 |
| 20  | 21 Lafayette  | 200 | 0     | 489.899   | 374.74752000000007 |
| 21  | 22 Pompey     | 238 | 0     | 630.85527 | 509.25709659999995 |
| 22  | 23 Pompey     | 247 | 0     | 619.0114  | 492.99125200000003 |
| 23  | 24 Pompey     | 128 | 0     | 328.5667  | 268.09438719999997 |
| 24  | 25 Skaneatele | 402 | 0     | 960.09530 | 838.2124           |
| 25  | 26 Skaneatele | 169 | 4     | 383.26740 | 344.8779450999999  |
| 26  | 27 Lafayette  | 126 | 0     | 283.76445 | 227.6469           |
| 27  | 28 Lafayette  | 57  | 0     | 156.4911  | 111.9274           |
| 28  | 29 Lafayette  | 252 | 0     | 541.296   | 439.48800000000006 |
| 29  | 30 Pompey     | 125 | 0     | 298.55332 | 253.0989           |
| 30  | 31 Pompey     | 90  | 5     | 230.4738  | 186.63167700000002 |
| 31  | 32 Pompey     | 83  | 0     | 208.0123  | 172.14811709999998 |
| 32  | 33 Pompey     | 157 | 0     | 410.2939  | 327.60706439999996 |
| 33  | 34 Pompey     | 62  | 0     | 147.51733 | 122.9311           |
| 34  | 35 Pompey     | 53  | 0     | 127.40378 | 106                |
| 35  | 36 Marcellus  | 106 | 0     | 262.4274  | 203.7672           |
| 36  | 37 Marcellus  | 24  | 0     | 44.869572 | 42.782616000000004 |
| 37  | 38 Marcellus  | 83  | 0     | 201.8642  | 164.97538159999996 |
| 38  | 39 Lafayette  | 260 | 0     | 552.7553  | 450.3932           |
| 39  | 40 Skaneatele | 303 | 3     | 658.1342  | 599.8572           |
| 40  | 41 Skaneatele | 17  | 0     | 37.1875   | 39.3125            |
| 41  | 42 Skaneatele | 211 | 0     | 514.84    | 443.1              |
| 42  | 43 Onondaga   | 121 | 0     | 293.42477 | 238.97485358999998 |



| TAZ | Town_City     | HH  | HH_GQ | pop       | veh                |
|-----|---------------|-----|-------|-----------|--------------------|
| 43  | 44 Onondaga   | 217 | 0     | 567.2284  | 448.1304           |
| 44  | 45 Lafayette  | 85  | 0     | 208.9157  | 161.8073           |
| 45  | 46 Lafayette  | 80  | 0     | 204.21043 | 155.78941600000002 |
| 46  | 47 Pompey     | 82  | 0     | 203.4429  | 170.22778519999997 |
| 47  | 48 Pompey     | 279 | 7     | 723.9994  | 580.9995323999999  |
| 48  | 49 Onondaga   | 73  | 4     | 192.66222 | 147.896            |
| 49  | 50 Onondaga   | 93  | 0     | 211.27161 | 180.94558949999998 |
| 50  | 51 Onondaga   | 225 | 0     | 548.0004  | 448.0002832499999  |
| 51  | 52 Onondaga   | 7   | 0     | 15.999984 | 14.999984999999999 |
| 52  | 53 Marcellus  | 117 | 0     | 298.768   | 235.04475968999995 |
| 53  | 54 Marcellus  | 195 | 0     | 492.8575  | 385.7146           |
| 54  | 55 Marcellus  | 88  | 0     | 211.619   | 169.7142           |
| 55  | 56 Onondaga   | 306 | 0     | 436.00052 | 436.0008           |
| 56  | 57 Skaneatele | 240 | 0     | 578.5894  | 441.16176959999996 |
| 57  | 58 Skaneatele | 184 | 0     | 437.2587  | 332.854            |
| 58  | 59 Skaneatele | 492 | 0     | 950.06917 | 762.388            |
| 59  | 60 Onondaga   | 190 | 0     | 445.3437  | 304.603            |
| 60  | 61 Lafayette  | 270 | 0     | 618.4234  | 486.22420800000003 |
| 61  | 62 Marcellus  | 116 | 0     | 287.891   | 205.6364           |
| 62  | 63 Onondaga   | 362 | 0     | 902.49316 | 727.0083           |
| 63  | 64 Skaneatele | 149 | 0     | 378.99970 | 284.99982747999996 |
| 64  | 65 Skaneatele | 340 | 0     | 830.15837 | 631.7353714000001  |
| 65  | 66 Skaneatele | 42  | 0     | 116.23253 | 81.06978           |
| 66  | 67 Onondaga   | 199 | 0     | 495.04884 | 307.8126           |
| 67  | 68 Pompey     | 170 | 0     | 471.9733  | 357.8945           |
| 68  | 69 Pompey     | 265 | 6     | 683.72387 | 554.8087700000001  |
| 69  | 70 Pompey     | 318 | 0     | 959.2474  | 701.0693           |
| 70  | 71 Lafayette  | 144 | 0     | 358.24372 | 275.12182655999993 |
| 71  | 72 Pompey     | 127 | 0     | 306.9998  | 256.9999           |
| 72  | 73 Pompey     | 214 | 0     | 655.1014  | 466.2138           |
| 73  | 74 Marcellus  | 419 | 0     | 832.94001 | 679.1042222000001  |
| 74  | 75 Onondaga   | 12  | 0     | 20.727263 | 16.36363           |
| 75  | 76 Onondaga   | 253 | 0     | 624.6545  | 414.80197043999993 |
| 76  | 77 Onondaga   | 213 | 0     | 494.64412 | 416.91440192999994 |
| 77  | 78 Marcellus  | 125 | 0     | 357.95469 | 253.40925000000004 |
| 78  | 79 Marcellus  | 17  | 0     | 40.375    | 34                 |
| 79  | 80 Marcellus  | 15  | 0     | 32.8125   | 24.375             |
| 80  | 81 Onondaga   | 419 | 0     | 941.7623  | 657.1583513800001  |
| 81  | 82 Onondaga   | 292 | 0     | 770.2939  | 546.3226297199999  |
| 82  | 83 Skaneatele | 502 | 0     | 1208.2550 | 915.591            |
| 83  | 84 Manlius    | 16  | 0     | 47.999991 | 30.933318399999997 |
| 84  | 85 Manlius    | 148 | 0     | 433.722   | 294.9721           |
| 85  | 86 Manlius    | 347 | 0     | 771.44590 | 608.5069554500001  |



| TAZ | Town_City     | HH  | HH_GQ | pop       | veh                |
|-----|---------------|-----|-------|-----------|--------------------|
| 86  | 87 Manlius    | 218 | 0     | 501.9069  | 373.13484295999996 |
| 87  | 88 Marcellus  | 200 | 0     | 490.0994  | 350.49531999999994 |
| 88  | 89 Marcellus  | 207 | 0     | 415.0045  | 333.6113           |
| 89  | 90 Dewitt     | 407 | 0     | 1090.986  | 759.7334           |
| 90  | 91 Dewitt     | 57  | 0     | 167.58000 | 112.86             |
| 91  | 92 Marcellus  | 149 | 0     | 369.3522  | 262.32406579999997 |
| 92  | 93 Marcellus  | 170 | 0     | 443.52540 | 309.48700260000004 |
| 93  | 94 Marcellus  | 142 | 0     | 357.66925 | 253.03763840000002 |
| 94  | 95 Onondaga   | 679 | 4     | 1693.136  | 1120.516           |
| 95  | 96 Syracuse   | 756 | 0     | 1647.8206 | 1145.4852729600002 |
| 96  | 97 Manlius    | 69  | 0     | 135.80947 | 109.52375519999997 |
| 97  | 98 Manlius    | 621 | 0     | 1378.2913 | 1034.999           |
| 98  | 99 Syracuse   | 761 | 0     | 1273.6532 | 786.9326198299999  |
| 99  | 100 Syracuse  | 310 | 8     | 639.7351  | 349.1169           |
| 100 | 101 Onondaga  | 456 | 7     | 1261.7383 | 862.7556           |
| 101 | 102 Syracuse  | 325 | 24    | 766.59243 | 504.6294           |
| 102 | 103 Marcellus | 269 | 0     | 679.1692  | 484.6445           |
| 103 | 104 Marcellus | 167 | 0     | 434.42543 | 305.79041010000003 |
| 104 | 105 Manlius   | 713 | 1     | 1596.7154 | 1261.308           |
| 105 | 106 Dewitt    | 255 | 6     | 578.6881  | 419.6877           |
| 106 | 107 Syracuse  | 33  | 0     | 58.999957 | 33.999969300000004 |
| 107 | 108 Syracuse  | 40  | 0     | 96        | 45                 |
| 108 | 109 Syracuse  | 289 | 0     | 638.7896  | 340.82069114999996 |
| 109 | 110 Syracuse  | 49  | 0     | 103.00000 | 55.99998319999999  |
| 110 | 111 Onondaga  | 280 | 1     | 801.49820 | 539.0873           |
| 111 | 112 Onondaga  | 190 | 0     | 536.6665  | 368.88870499999996 |
| 112 | 113 Onondaga  | 12  | 0     | 34.90907  | 21.81817           |
| 113 | 114 Dewitt    | 40  | 0     | 95.294168 | 84.705936000000001 |
| 114 | 115 Manlius   | 791 | 0     | 2182.93   | 1609.3140209999997 |
| 115 | 116 Onondaga  | 600 | 10    | 1665.1714 | 1202.177           |
| 116 | 117 Onondaga  | 650 | 0     | 1801.1685 | 1245.3270634999997 |
| 117 | 118 Syracuse  | 692 | 2     | 849.1037  | 548.8276911999999  |
| 118 | 119 Syracuse  | 695 | 0     | 1408.73   | 555.0142           |
| 119 | 120 Manlius   | 282 | 0     | 712.6221  | 546.2165           |
| 120 | 121 Syracuse  | 305 | 0     | 754.7778  | 293.4175           |
| 121 | 122 Syracuse  | 126 | 0     | 272.83467 | 148.81893515999997 |
| 122 | 123 Syracuse  | 323 | 0     | 713.6765  | 380.42231338000005 |
| 123 | 124 Onondaga  | 78  | 0     | 172.2077  | 130.6753           |
| 124 | 125 Manlius   | 388 | 0     | 827.3652  | 671.6908           |
| 125 | 126 Manlius   | 155 | 0     | 307.4167  | 264.79172815000004 |
| 126 | 127 Manlius   | 371 | 0     | 685.9501  | 529.8098           |
| 127 | 128 Syracuse  | 268 | 7     | 615.7019  | 246.61686960000003 |
| 128 | 129 Dewitt    | 2   | 0     | 3         | 3                  |



| TAZ | Town_City    | HH  | HH_GQ | pop       | veh                |
|-----|--------------|-----|-------|-----------|--------------------|
| 129 | 130 Syracuse | 116 | 0     | 288.51267 | 140.7862           |
| 130 | 131 Syracuse | 86  | 0     | 207.58641 | 105.7702           |
| 131 | 132 Syracuse | 89  | 0     | 213.8045  | 107.4138           |
| 132 | 133 Onondaga | 229 | 14    | 467.75907 | 346.68035428999997 |
| 133 | 134 Manlius  | 266 | 0     | 520.9582  | 402.5131           |
| 134 | 135 Manlius  | 185 | 0     | 446.4128  | 326.76618449999995 |
| 135 | 136 Manlius  | 202 | 0     | 429.6345  | 322.995            |
| 136 | 137 Manlius  | 244 | 0     | 691.3336  | 496.62648092000006 |
| 137 | 138 Onondaga | 389 | 0     | 1019.3422 | 763.7429166000001  |
| 138 | 139 Onondaga | 120 | 0     | 287.3945  | 230.924            |
| 139 | 140 Onondaga | 0   | 0     | 0         | 0                  |
| 140 | 141 Onondaga | 80  | 0     | 132.6582  | 113.41768000000003 |
| 141 | 142 Onondaga | 460 | 6     | 764.94927 | 644.2008911999999  |
| 142 | 143 Syracuse | 94  | 1     | 250.34709 | 137.5366           |
| 143 | 144 Syracuse | 204 | 14    | 485.12119 | 274.43936399999996 |
| 144 | 145 Syracuse | 354 | 0     | 923.13882 | 430.2766           |
| 145 | 146 Syracuse | 24  | 0     | 45.913051 | 23.999992800000005 |
| 146 | 147 Syracuse | 15  | 0     | 38.4375   | 15.9375            |
| 147 | 148 Syracuse | 834 | 0     | 1441.8132 | 880.8312           |
| 148 | 149 Syracuse | 285 | 0     | 680.6702  | 396.6496           |
| 149 | 150 Syracuse | 477 | 5     | 1283.476  | 408.0246           |
| 150 | 151 Syracuse | 191 | 6     | 447.8088  | 257.561            |
| 151 | 152 Onondaga | 7   | 0     | 22.166711 | 12.833359000000002 |
| 152 | 153 Onondaga | 13  | 0     | 29.7143   | 23.214297600000005 |
| 153 | 154 Manlius  | 82  | 0     | 146.79021 | 133.6297           |
| 154 | 155 Syracuse | 294 | 4     | 596.0828  | 477.7494061199999  |
| 155 | 156 Dewitt   | 450 | 0     | 1029.591  | 664.285            |
| 156 | 157 Syracuse | 157 | 0     | 424.29758 | 190.7848           |
| 157 | 158 Syracuse | 275 | 4     | 727.7855  | 228.2119           |
| 158 | 159 Dewitt   | 241 | 0     | 603.01339 | 499.4345           |
| 159 | 160 Dewitt   | 316 | 0     | 788.987   | 664.4101           |
| 160 | 161 Dewitt   | 241 | 0     | 541.1928  | 384.7544           |
| 161 | 162 Dewitt   | 59  | 0     | 139.9998  | 95.99989710000001  |
| 162 | 163 Onondaga | 420 | 0     | 829.5578  | 589.392            |
| 163 | 164 Onondaga | 364 | 0     | 975.47847 | 613.5409498399999  |
| 164 | 165 Onondaga | 107 | 0     | 268.04021 | 171.8483           |
| 165 | 166 Manlius  | 104 | 0     | 234.25237 | 179.72812832000002 |
| 166 | 167 Syracuse | 126 | 0     | 322.00016 | 141.00001271999997 |
| 167 | 168 Syracuse | 19  | 0     | 44.70592  | 21.2353            |
| 168 | 169 Dewitt   | 31  | 0     | 73.625    | 49.40625           |
| 169 | 170 Syracuse | 171 | 0     | 445.75269 | 201.7415           |
| 170 | 171 Syracuse | 698 | 0     | 1575.8602 | 792.0989           |
| 171 | 172 Camillus | 211 | 0     | 573.02032 | 414.5026           |



| TAZ | Town_City    | HH  | HH_GQ | pop       | veh                |
|-----|--------------|-----|-------|-----------|--------------------|
| 172 | 173 Syracuse | 245 | 0     | 585.4421  | 226.30529950000002 |
| 173 | 174 Syracuse | 34  | 0     | 97.277753 | 33.055544600000005 |
| 174 | 175 Manlius  | 53  | 0     | 150.32723 | 105.03637520000001 |
| 175 | 176 Manlius  | 154 | 0     | 407.792   | 304.304            |
| 176 | 177 Syracuse | 264 | 9     | 600.824   | 389.7141           |
| 177 | 178 Manlius  | 524 | 0     | 1216.967  | 889.0895           |
| 178 | 179 Dewitt   | 339 | 4     | 843.00019 | 716.0003           |
| 179 | 180 Syracuse | 143 | 0     | 290.9653  | 156.9028           |
| 180 | 181 Syracuse | 200 | 0     | 325.37306 | 199.0049           |
| 181 | 182 Syracuse | 76  | 0     | 205.29867 | 73.03896           |
| 182 | 183 Syracuse | 33  | 0     | 88.32355  | 32.02942           |
| 183 | 184 Syracuse | 61  | 1     | 174.00011 | 61                 |
| 184 | 185 Dewitt   | 268 | 9     | 601.3188  | 409.7679264000001  |
| 185 | 186 Syracuse | 24  | 0     | 53.00003  | 42.00001439999999  |
| 186 | 187 Manlius  | 647 | 5     | 1175.572  | 924.7121           |
| 187 | 188 Manlius  | 112 | 0     | 287.0002  | 218.00011295999997 |
| 188 | 189 Syracuse | 217 | 0     | 559.42220 | 383.2339           |
| 189 | 190 Syracuse | 101 | 0     | 271.31363 | 116.8431           |
| 190 | 191 Onondaga | 375 | 0     | 886.08921 | 594.7584224999999  |
| 191 | 192 Syracuse | 378 | 0     | 968.4378  | 676.2107394000001  |
| 192 | 193 Syracuse | 142 | 0     | 343.99990 | 248.99991100000003 |
| 193 | 194 Elbridge | 137 | 5     | 328.28097 | 257.2449           |
| 194 | 195 Elbridge | 221 | 0     | 541.34859 | 413.6147           |
| 195 | 196 Syracuse | 193 | 0     | 367.09816 | 303.42791447999997 |
| 196 | 197 Onondaga | 1   | 0     | 2         | 2                  |
| 197 | 198 Onondaga | 35  | 0     | 76.087007 | 53.26089           |
| 198 | 199 Syracuse | 95  | 0     | 253.33326 | 112.8125           |
| 199 | 200 Syracuse | 166 | 0     | 453.00035 | 199.00015259999998 |
| 200 | 201 Syracuse | 211 | 0     | 547.0374  | 253.9817           |
| 201 | 202 Manlius  | 451 | 0     | 882.91512 | 683.0287           |
| 202 | 203 Syracuse | 144 | 0     | 326.731   | 161.87585760000002 |
| 203 | 204 Syracuse | 271 | 5     | 695.24808 | 257.78067419999996 |
| 204 | 205 Syracuse | 12  | 0     | 30.545443 | 9.818180400000001  |
| 205 | 206 Syracuse | 99  | 0     | 262.9999  | 92.99997           |
| 206 | 207 Syracuse | 91  | 0     | 225.52182 | 85.06521660000001  |
| 207 | 208 Dewitt   | 579 | 4     | 1400.588  | 959.3432472000002  |
| 208 | 209 Onondaga | 324 | 0     | 593.6649  | 424.6213266000001  |
| 209 | 210 Onondaga | 76  | 5     | 180.45676 | 115.4074           |
| 210 | 211 Syracuse | 261 | 8     | 555.0405  | 415.0959           |
| 211 | 212 Syracuse | 482 | 5     | 1163.1799 | 832.9039048000001  |
| 212 | 213 Camillus | 259 | 0     | 645.75818 | 504.06295099999994 |
| 213 | 214 Camillus | 385 | 0     | 1045.594  | 799.083            |
| 214 | 215 Camillus | 42  | 0     | 58.390218 | 56.341441800000005 |



| TAZ | Town_City    | HH   | HH_GQ | pop       | veh                |
|-----|--------------|------|-------|-----------|--------------------|
| 215 | 216 Onondaga | 129  | 1     | 285.7923  | 186.55387374000003 |
| 216 | 217 Syracuse | 257  | 4     | 538.5992  | 431.60315290000005 |
| 217 | 218 Syracuse | 172  | 0     | 342.0111  | 271.4217           |
| 218 | 219 Dewitt   | 124  | 0     | 337.00009 | 225                |
| 219 | 220 Dewitt   | 276  | 5     | 598.10633 | 417.91481160000006 |
| 220 | 221 Syracuse | 165  | 0     | 408.6178  | 140.7354           |
| 221 | 222 Syracuse | 157  | 0     | 440.19669 | 142.095            |
| 222 | 223 Syracuse | 119  | 21    | 304.574   | 75.1134            |
| 223 | 224 Syracuse | 57   | 0     | 142.0001  | 36.00002           |
| 224 | 225 Syracuse | 74   | 0     | 195.9999  | 47.99997           |
| 225 | 226 Manlius  | 466  | 6     | 1187.784  | 888.5591864200001  |
| 226 | 227 Syracuse | 66   | 43    | 233.80003 | 47.99999           |
| 227 | 228 Manlius  | 183  | 0     | 406.90600 | 331.55304990000001 |
| 228 | 229 Onondaga | 73   | 0     | 147.01388 | 106.4583           |
| 229 | 230 Onondaga | 130  | 0     | 255.00005 | 184                |
| 230 | 231 Syracuse | 316  | 0     | 820.02577 | 474.4924828399999  |
| 231 | 232 Syracuse | 77   | 0     | 184.99987 | 62.99996           |
| 232 | 233 Syracuse | 91   | 56    | 251.61902 | 71.80953233999999  |
| 233 | 234 Syracuse | 384  | 0     | 969.1919  | 570.894            |
| 234 | 235 Syracuse | 35   | 0     | 70        | 18.000013499999998 |
| 235 | 236 Syracuse | 50   | 0     | 137.7552  | 32.65307           |
| 236 | 237 Dewitt   | 111  | 0     | 276.509   | 231.9107           |
| 237 | 238 Dewitt   | 155  | 0     | 353.27944 | 319.05866965000007 |
| 238 | 239 Syracuse | 533  | 0     | 1452.525  | 1058.878           |
| 239 | 240 Geddes   | 15   | 7     | 31.54547  | 17.72728           |
| 240 | 241 Manlius  | 322  | 0     | 692.8482  | 569.2322           |
| 241 | 242 Syracuse | 60   | 0     | 116.0656  | 30.49182           |
| 242 | 243 Syracuse | 38   | 0     | 104.00002 | 19.99999           |
| 243 | 244 Manlius  | 512  | 0     | 1187.451  | 924.4145           |
| 244 | 245 Syracuse | 164  | 0     | 412.89382 | 117.69394399999999 |
| 245 | 246 Syracuse | 163  | 0     | 381.612   | 113.1412           |
| 246 | 247 Syracuse | 0    | 0     | 0         | 0                  |
| 247 | 248 Syracuse | 83   | 0     | 291.48828 | 72.13097           |
| 248 | 249 Syracuse | 283  | 16    | 629.32135 | 252.38034521999998 |
| 249 | 250 Syracuse | 205  | 0     | 519.9996  | 200.9998           |
| 250 | 251 Syracuse | 148  | 0     | 387.38289 | 127.141            |
| 251 | 252 Syracuse | 84   | 0     | 245.0823  | 76.09405           |
| 252 | 253 Syracuse | 139  | 6     | 320.17797 | 238.9657           |
| 253 | 254 Dewitt   | 124  | 9     | 284.24267 | 186.9396           |
| 254 | 255 Dewitt   | 270  | 4     | 691.36213 | 446.04361800000001 |
| 255 | 256 Camillus | 1298 | 4     | 2793.403  | 2180.281           |
| 256 | 257 Camillus | 797  | 0     | 1949.768  | 1406.178           |
| 257 | 258 Geddes   | 454  | 0     | 993.18757 | 738.6268465200001  |



| TAZ | Town_City    | HH  | HH_GQ | pop       | veh                |
|-----|--------------|-----|-------|-----------|--------------------|
| 258 | 259 Geddes   | 1   | 0     | 2         | 2                  |
| 259 | 260 Syracuse | 65  | 5     | 111.7856  | 88.21422350000002  |
| 260 | 261 Syracuse | 493 | 0     | 1093.5635 | 671.2764           |
| 261 | 262 Syracuse | 107 | 0     | 307.87698 | 82.77361           |
| 262 | 263 Syracuse | 122 | 10    | 345.7297  | 94.48124           |
| 263 | 264 Camillus | 159 | 0     | 312.9999  | 198.99982557000004 |
| 264 | 265 Camillus | 262 | 0     | 568.9999  | 355.0001           |
| 265 | 266 Camillus | 165 | 7     | 325.5549  | 205.0577           |
| 266 | 267 Camillus | 579 | 4     | 1309.4726 | 954.1130996699999  |
| 267 | 268 Geddes   | 503 | 0     | 1180.0004 | 841.0003617299999  |
| 268 | 269 Syracuse | 1   | 0     | 1         | 0                  |
| 269 | 270 Syracuse | 0   | 0     | 0         | 0                  |
| 270 | 271 Syracuse | 408 | 2     | 1049.751  | 401.18368272000004 |
| 271 | 272 Syracuse | 196 | 34    | 426.82360 | 114.47060911999998 |
| 272 | 273 Syracuse | 4   | 51    | 64        | 2.071429           |
| 273 | 274 Syracuse | 287 | 49    | 581.2852  | 85.09889           |
| 274 | 275 Camillus | 62  | 0     | 133.8412  | 102.3492           |
| 275 | 276 Syracuse | 264 | 0     | 600.72376 | 458.2637           |
| 276 | 277 Syracuse | 178 | 3     | 350.2458  | 284.0218           |
| 277 | 278 Syracuse | 85  | 0     | 173.95329 | 135.40681899999998 |
| 278 | 279 Syracuse | 0   | 681   | 681       | 0                  |
| 279 | 280 Syracuse | 1   | 676   | 678.7246  | 1.651198           |
| 280 | 281 Syracuse | 328 | 20    | 762.31517 | 224.4208           |
| 281 | 282 Syracuse | 0   | 0     | 0         | 0                  |
| 282 | 283 Syracuse | 277 | 33    | 796.6214  | 563.3580572000001  |
| 283 | 284 Syracuse | 141 | 698   | 1011.775  | 142.9859           |
| 284 | 285 Syracuse | 260 | 6     | 688.74063 | 393.8517231999999  |
| 285 | 286 Syracuse | 192 | 0     | 435.99985 | 266.9998           |
| 286 | 287 Elbridge | 258 | 0     | 649.5888  | 490.50585899999993 |
| 287 | 288 Elbridge | 219 | 4     | 526.838   | 407.419            |
| 288 | 289 Elbridge | 221 | 0     | 542.9137  | 416.77202345999996 |
| 289 | 290 Syracuse | 149 | 43    | 463.4764  | 116.23552580000002 |
| 290 | 291 Geddes   | 420 | 8     | 892.15905 | 605.4674009999999  |
| 291 | 292 Syracuse | 12  | 0     | 25.000010 | 2.9999988000000006 |
| 292 | 293 Syracuse | 0   | 0     | 0         | 0                  |
| 293 | 294 Syracuse | 29  | 0     | 61.99996  | 46.999975199999994 |
| 294 | 295 Syracuse | 271 | 0     | 550       | 443                |
| 295 | 296 Syracuse | 336 | 0     | 810.58736 | 487.5489           |
| 296 | 297 Geddes   | 446 | 0     | 994.69125 | 682.5918           |
| 297 | 298 Syracuse | 0   | 442   | 442       | 0                  |
| 298 | 299 Syracuse | 0   | 60    | 60        | 0                  |
| 299 | 300 Dewitt   | 310 | 0     | 709.71106 | 461.5115979000001  |
| 300 | 301 Syracuse | 624 | 1     | 986.04040 | 169.95114239999998 |



| TAZ | Town_City    | HH  | HH_GQ | pop       | veh                |
|-----|--------------|-----|-------|-----------|--------------------|
| 301 | 302 Syracuse | 70  | 0     | 229.9999  | 38.99997499999999  |
| 302 | 303 Syracuse | 0   | 0     | 0         | 0                  |
| 303 | 304 Syracuse | 41  | 0     | 69.99992  | 11.999970200000002 |
| 304 | 305 Syracuse | 47  | 0     | 101.1522  | 18.39132           |
| 305 | 306 Syracuse | 21  | 0     | 56.31824  | 10.50001           |
| 306 | 307 Syracuse | 19  | 32    | 57.333323 | 6.333323           |
| 307 | 308 Syracuse | 0   | 0     | 0         | 0                  |
| 308 | 309 Syracuse | 0   | 71    | 71        | 0                  |
| 309 | 310 Syracuse | 1   | 0     | 1         | 0                  |
| 310 | 311 Syracuse | 413 | 6     | 938.92867 | 710.2421297999999  |
| 311 | 312 Syracuse | 0   | 0     | 0         | 0                  |
| 312 | 313 Syracuse | 0   | 0     | 0         | 0                  |
| 313 | 314 Syracuse | 0   | 101   | 101       | 0                  |
| 314 | 315 Syracuse | 0   | 0     | 0         | 0                  |
| 315 | 316 Syracuse | 0   | 0     | 0         | 0                  |
| 316 | 317 Syracuse | 31  | 218   | 280       | 40.69546           |
| 317 | 318 Syracuse | 6   | 261   | 273.9961  | 7.969105           |
| 318 | 319 Syracuse | 0   | 0     | 0         | 0                  |
| 319 | 320 Syracuse | 192 | 0     | 504.24268 | 94.06066560000001  |
| 320 | 321 Syracuse | 72  | 0     | 181       | 35.000006400000004 |
| 321 | 322 Syracuse | 62  | 0     | 172.9999  | 31.99999           |
| 322 | 323 Syracuse | 92  | 0     | 246.3227  | 50.45164           |
| 323 | 324 Manlius  | 259 | 0     | 637.9078  | 484.42634799999996 |
| 324 | 325 Manlius  | 154 | 0     | 316.9929  | 260.78852800000004 |
| 325 | 326 Syracuse | 0   | 85    | 85        | 0                  |
| 326 | 327 Syracuse | 63  | 67    | 200.6947  | 80.79393           |
| 327 | 328 Syracuse | 0   | 479   | 479       | 0                  |
| 328 | 329 Syracuse | 0   | 225   | 225       | 0                  |
| 329 | 330 Syracuse | 122 | 0     | 296.5689  | 177.5447           |
| 330 | 331 Syracuse | 85  | 0     | 204.40484 | 124.46436100000001 |
| 331 | 332 Dewitt   | 233 | 0     | 514.9998  | 335.99996602000004 |
| 332 | 333 Dewitt   | 130 | 10    | 244.00007 | 160.6429           |
| 333 | 334 Camillus | 604 | 4     | 1219.908  | 933.1847897199998  |
| 334 | 335 Syracuse | 167 | 0     | 397.8529  | 161.10595210000002 |
| 335 | 336 Syracuse | 211 | 0     | 524.0652  | 203.14898540000004 |
| 336 | 337 Syracuse | 0   | 1     | 1         | 0                  |
| 337 | 338 Syracuse | 0   | 1     | 1         | 0                  |
| 338 | 339 Syracuse | 106 | 0     | 107.582   | 77.52235           |
| 339 | 340 Syracuse | 39  | 0     | 0         | 0                  |
| 340 | 341 Syracuse | 0   | 0     | 0         | 0                  |
| 341 | 342 Syracuse | 0   | 0     | 0         | 0                  |
| 342 | 343 Syracuse | 274 | 0     | 306.318   | 207.95908150000002 |
| 343 | 344 Syracuse | 0   | 4     | 4         | 0                  |



| TAZ | Town_City    | HH  | HH_GQ | pop       | veh                |
|-----|--------------|-----|-------|-----------|--------------------|
| 344 | 345 Syracuse | 135 | 0     | 271.9709  | 165.54755835000003 |
| 345 | 346 Syracuse | 0   | 64    | 64        | 0                  |
| 346 | 347 Syracuse | 207 | 0     | 451.81711 | 348.3172           |
| 347 | 348 Syracuse | 222 | 0     | 366.5584  | 316.6514           |
| 348 | 349 Geddes   | 211 | 0     | 504.6079  | 360.29206251999994 |
| 349 | 350 Camillus | 502 | 0     | 1200.301  | 865.9752           |
| 350 | 351 Manlius  | 400 | 0     | 991.0278  | 753.5613           |
| 351 | 352 Manlius  | 53  | 5     | 128.362   | 98.68966230000001  |
| 352 | 353 Syracuse | 311 | 50    | 639.21873 | 132.8053           |
| 353 | 354 Syracuse | 77  | 0     | 194.47434 | 40.474341599999995 |
| 354 | 355 Syracuse | 24  | 0     | 0         | 0                  |
| 355 | 356 Syracuse | 0   | 0     | 0         | 0                  |
| 356 | 357 Geddes   | 381 | 0     | 929.3178  | 652.135            |
| 357 | 358 Syracuse | 144 | 9     | 361.0001  | 127.9999           |
| 358 | 359 Syracuse | 141 | 0     | 284.00000 | 121.00002420000001 |
| 359 | 360 Syracuse | 60  | 0     | 106.00003 | 47.00003           |
| 360 | 361 Syracuse | 5   | 0     | 12        | 9                  |
| 361 | 362 Syracuse | 179 | 1     | 315.2443  | 228.72210090000002 |
| 362 | 363 Syracuse | 254 | 1     | 526.5846  | 359.5077           |
| 363 | 364 Syracuse | 235 | 0     | 418.43887 | 350.0211           |
| 364 | 365 Syracuse | 134 | 20    | 307.7563  | 223.3333           |
| 365 | 366 Geddes   | 215 | 0     | 444.3973  | 314.82135454999997 |
| 366 | 367 Geddes   | 186 | 0     | 444.60941 | 297.401            |
| 367 | 368 Syracuse | 59  | 0     | 116.9828  | 79.34486969999998  |
| 368 | 369 Syracuse | 484 | 0     | 995.99959 | 686.9995           |
| 369 | 370 Syracuse | 297 | 0     | 593.99967 | 414.99967409999994 |
| 370 | 371 Syracuse | 0   | 0     | 0         | 0                  |
| 371 | 372 Syracuse | 924 | 54    | 1355.9506 | 649.3272693600001  |
| 372 | 373 Syracuse | 0   | 139   | 139       | 0                  |
| 373 | 374 Syracuse | 0   | 286   | 286       | 0                  |
| 374 | 375 Syracuse | 0   | 0     | 0         | 0                  |
| 375 | 376 Syracuse | 11  | 0     | 0         | 0                  |
| 376 | 377 Syracuse | 88  | 0     | 88        | 88                 |
| 377 | 378 Syracuse | 0   | 188   | 188       | 0                  |
| 378 | 379 Syracuse | 0   | 24    | 24        | 0                  |
| 379 | 380 Syracuse | 0   | 0     | 0         | 0                  |
| 380 | 381 Syracuse | 0   | 0     | 0         | 0                  |
| 381 | 382 Syracuse | 0   | 0     | 0         | 0                  |
| 382 | 383 Geddes   | 168 | 4     | 374.5883  | 272.753            |
| 383 | 384 Syracuse | 108 | 0     | 280       | 54.99998           |
| 384 | 385 Syracuse | 189 | 0     | 460.38464 | 91.10777           |
| 385 | 386 Dewitt   | 160 | 4     | 397.1707  | 248.78041280000002 |
| 386 | 387 Dewitt   | 112 | 0     | 243       | 158.00001056000002 |



| TAZ | Town_City    | HH   | HH_GQ | pop         | veh                |
|-----|--------------|------|-------|-------------|--------------------|
| 387 | 388 Syracuse | 153  | 0     | 272.6182    | 155.7818           |
| 388 | 389 Syracuse | 189  | 0     | 464         | 202.99996710000002 |
| 389 | 390 Syracuse | 145  | 0     | 209.00002   | 143                |
| 390 | 391 Syracuse | 195  | 10    | 390.75822   | 200.5449           |
| 391 | 392 Syracuse | 39   | 0     | 73.125000   | 39                 |
| 392 | 393 Camillus | 28   | 0     | 50.81478    | 40.444412400000004 |
| 393 | 394 Camillus | 380  | 3     | 901.903     | 657.8067           |
| 394 | 395 Syracuse | 0    | 0     | 0           | 0                  |
| 395 | 396 Syracuse | 104  | 0     | 124.00005   | 65.33334           |
| 396 | 397 Syracuse | 184  | 0     | 219.81221   | 108.6712           |
| 397 | 398 Camillus | 1311 | 4     | 2810.5914   | 1982.875           |
| 398 | 399 Syracuse | 457  | 3     | 1169.241    | 485.68634699999996 |
| 399 | 400 Syracuse | 122  | 1     | 223.1788795 | 21946768000001     |
| 400 | 401 Syracuse | 21   | 0     | 48.681851   | 20.045472300000004 |
| 401 | 402 Camillus | 638  | 4     | 1428.56     | 1067.5558874199999 |
| 402 | 403 Syracuse | 0    | 0     | 0           | 0                  |
| 403 | 404 Syracuse | 132  | 0     | 296.2668    | 220.97774687999998 |
| 404 | 405 Syracuse | 229  | 0     | 343.50000   | 183.20000000000002 |
| 405 | 406 Syracuse | 66   | 0     | 124.8923681 | 23081339999999     |
| 406 | 407 Syracuse | 213  | 2     | 434.90292   | 278.08347060000006 |
| 407 | 408 Syracuse | 0    | 1     | 1           | 0                  |
| 408 | 409 Syracuse | 0    | 1     | 1           | 0                  |
| 409 | 410 Syracuse | 166  | 0     | 220.9264    | 117.1765           |
| 410 | 411 Syracuse | 0    | 0     | 0           | 0                  |
| 411 | 412 Syracuse | 132  | 98    | 237.65215   | 68.8696            |
| 412 | 413 Syracuse | 0    | 0     | 0           | 0                  |
| 413 | 414 Syracuse | 64   | 0     | 64.000006   | 33.03227           |
| 414 | 415 Syracuse | 139  | 0     | 139.00005   | 70.49284920000001  |
| 415 | 416 Camillus | 333  | 0     | 749.49845   | 514.9072506599999  |
| 416 | 417 Syracuse | 27   | 0     | 38.999966   | 19.99998           |
| 417 | 418 Syracuse | 0    | 0     | 0           | 0                  |
| 418 | 419 Syracuse | 0    | 0     | 0           | 0                  |
| 419 | 420 Syracuse | 0    | 0     | 0           | 0                  |
| 420 | 421 Syracuse | 388  | 0     | 899.3641    | 527.2821835999999  |
| 421 | 422 Syracuse | 0    | 0     | 0           | 0                  |
| 422 | 423 Syracuse | 0    | 0     | 0           | 0                  |
| 423 | 424 Syracuse | 117  | 0     | 0           | 0                  |
| 424 | 425 Syracuse | 73   | 0     | 90.176527   | 68.70590639999999  |
| 425 | 426 Syracuse | 0    | 0     | 0           | 0                  |
| 426 | 427 Syracuse | 4    | 0     | 7           | 4                  |
| 427 | 428 Syracuse | 28   | 0     | 71.448266   | 29.931028399999995 |
| 428 | 429 Syracuse | 191  | 0     | 473.9995    | 189.99980939999998 |
| 429 | 430 Syracuse | 136  | 0     | 277.78718   | 130.2127           |



| TAZ | Town_City    | HH  | HH_GQ | pop       | veh                |
|-----|--------------|-----|-------|-----------|--------------------|
| 430 | 431 Syracuse | 0   | 3     | 3         | 0                  |
| 431 | 432 Syracuse | 35  | 0     | 86.52779  | 35.97223           |
| 432 | 433 Syracuse | 15  | 0     | 38        | 14                 |
| 433 | 434 Syracuse | 188 | 0     | 362.57158 | 164.97962936000005 |
| 434 | 435 Syracuse | 5   | 0     | 8         | 5                  |
| 435 | 436 Syracuse | 0   | 0     | 0         | 0                  |
| 436 | 437 Syracuse | 0   | 0     | 0         | 0                  |
| 437 | 438 Syracuse | 0   | 0     | 0         | 0                  |
| 438 | 439 Syracuse | 82  | 0     | 152       | 99.00003499999998  |
| 439 | 440 Syracuse | 206 | 0     | 412.9953  | 264.7151           |
| 440 | 441 Geddes   | 110 | 0     | 159.5495  | 124.86478730000002 |
| 441 | 442 Syracuse | 440 | 59    | 1022.36   | 428.828            |
| 442 | 443 Syracuse | 438 | 3     | 1025.3327 | 428.04571416000005 |
| 443 | 444 Camillus | 238 | 0     | 523.9996  | 390.99974227999996 |
| 444 | 445 Syracuse | 0   | 0     | 0         | 0                  |
| 445 | 446 Dewitt   | 22  | 0     | 56.57142  | 36.66666           |
| 446 | 447 Geddes   | 200 | 0     | 483.417   | 344.7235           |
| 447 | 448 Geddes   | 137 | 7     | 278.12571 | 205.97887527999998 |
| 448 | 449 Syracuse | 49  | 0     | 110.25    | 42.875             |
| 449 | 450 Manlius  | 583 | 0     | 1412.1092 | 1097.411           |
| 450 | 451 Geddes   | 834 | 5     | 1712.7612 | 1222.669           |
| 451 | 452 Manlius  | 670 | 0     | 1304.1073 | 1124.643           |
| 452 | 453 Syracuse | 2   | 0     | 2         | 1                  |
| 453 | 454 Syracuse | 116 | 0     | 156.15394 | 71.38463447999999  |
| 454 | 455 Syracuse | 6   | 0     | 11.142845 | 5.1428519999999995 |
| 455 | 456 Syracuse | 3   | 0     | 3         | 2.000001           |
| 456 | 457 Syracuse | 27  | 0     | 36.346136 | 20.76923           |
| 457 | 458 Syracuse | 95  | 0     | 151.59581 | 108.13831949999997 |
| 458 | 459 Syracuse | 271 | 0     | 495.2084  | 331.4388           |
| 459 | 460 Syracuse | 175 | 0     | 217.16889 | 108.58445499999999 |
| 460 | 461 Syracuse | 0   | 0     | 0         | 0                  |
| 461 | 462 Syracuse | 0   | 0     | 0         | 0                  |
| 462 | 463 Syracuse | 0   | 0     | 0         | 0                  |
| 463 | 464 Syracuse | 104 | 0     | 127.7714  | 68.34283           |
| 464 | 465 Syracuse | 8   | 0     | 17.14284  | 10.285703999999999 |
| 465 | 466 Syracuse | 198 | 0     | 306.45230 | 125.3668           |
| 466 | 467 Syracuse | 0   | 0     | 0         | 0                  |
| 467 | 468 Syracuse | 154 | 0     | 178.20000 | 69.29996           |
| 468 | 469 Syracuse | 127 | 0     | 187.05436 | 66.94576146000001  |
| 469 | 470 Syracuse | 184 | 8     | 258.1252  | 94.87507360000001  |
| 470 | 471 Syracuse | 188 | 0     | 374.01049 | 125.3333           |
| 471 | 472 Syracuse | 305 | 0     | 791.4059  | 221.2747           |
| 472 | 473 Dewitt   | 312 | 152   | 769.2758  | 400.0862           |



| TAZ | Town_City | HH       | HH_GQ | pop | veh                          |
|-----|-----------|----------|-------|-----|------------------------------|
| 473 | 474       | Dewitt   | 363   | 0   | 710.0871 467.4242            |
| 474 | 475       | Syracuse | 431   | 1   | 964.76404 483.87706260000004 |
| 475 | 476       | Syracuse | 41    | 0   | 79.99995 35.99998            |
| 476 | 477       | Syracuse | 37    | 0   | 75.02773 32.88887            |
| 477 | 478       | Syracuse | 15    | 0   | 33.00002 16.000009499999997  |
| 478 | 479       | Syracuse | 33    | 0   | 67.03125 29.90625            |
| 479 | 480       | Syracuse | 183   | 12  | 409.55143 175.78816763999998 |
| 480 | 481       | Syracuse | 103   | 0   | 185.9722 90.60184            |
| 481 | 482       | Syracuse | 309   | 0   | 686.44912 294.3324           |
| 482 | 483       | Syracuse | 288   | 0   | 639.4578 279.21357503999997  |
| 483 | 484       | Dewitt   | 0     | 0   | 0 0                          |
| 484 | 485       | Dewitt   | 0     | 0   | 0 0                          |
| 485 | 486       | Syracuse | 169   | 0   | 390.37989 246.0876           |
| 486 | 487       | Elbridge | 472   | 0   | 1073.6702 857.8988           |
| 487 | 488       | Elbridge | 326   | 4   | 796.29084 619.7026551399999  |
| 488 | 489       | Syracuse | 113   | 0   | 158.40166 60.53566           |
| 489 | 490       | Syracuse | 328   | 0   | 691.8906 225.3132            |
| 490 | 491       | Syracuse | 399   | 26  | 588.90864 233.2185           |
| 491 | 492       | Syracuse | 330   | 9   | 411.5804 174.19343700000002  |
| 492 | 493       | Syracuse | 0     | 0   | 0 0                          |
| 493 | 494       | Syracuse | 196   | 0   | 293.351 263.4969             |
| 494 | 495       | Syracuse | 43    | 0   | 87.34375 57.78125            |
| 495 | 496       | Syracuse | 286   | 0   | 650.4511 274.0833            |
| 496 | 497       | Syracuse | 143   | 1   | 309.683 141.0277             |
| 497 | 498       | Syracuse | 222   | 0   | 251.86535 115.47970026000002 |
| 498 | 499       | Syracuse | 175   | 1   | 283.7681 112.71172500000003  |
| 499 | 500       | Syracuse | 580   | 4   | 1140.245 735.3921499999999   |
| 500 | 501       | Syracuse | 0     | 0   | 0 0                          |
| 501 | 502       | Geddes   | 631   | 0   | 1416.267 979.3446            |
| 502 | 503       | Syracuse | 45    | 0   | 63.409067 25.568180999999996 |
| 503 | 504       | Syracuse | 274   | 50  | 730.5792 217.75336220000003  |
| 504 | 505       | Geddes   | 736   | 1   | 1590.5628 1101.531           |
| 505 | 506       | Camillus | 187   | 0   | 374.00017 289.1859           |
| 506 | 507       | Syracuse | 0     | 0   | 0 0                          |
| 507 | 508       | Syracuse | 251   | 0   | 290.0778 270.5389            |
| 508 | 509       | Syracuse | 59    | 0   | 124.05124 93.79482           |
| 509 | 510       | Syracuse | 338   | 100 | 526.3763 181.4037            |
| 510 | 511       | Syracuse | 111   | 0   | 170.99985 69.99994           |
| 511 | 512       | Syracuse | 364   | 0   | 749.94011 504.614            |
| 512 | 513       | Dewitt   | 14    | 0   | 28.00001 16.00001            |
| 513 | 514       | Syracuse | 567   | 0   | 1240.6243 647.7155685000001  |
| 514 | 515       | Syracuse | 103   | 0   | 178.99996 77.00003           |
| 515 | 516       | Geddes   | 0     | 0   | 0 0                          |



| TAZ  | Town_City     | HH  | HH_GQ | pop       | veh                |
|------|---------------|-----|-------|-----------|--------------------|
| 516  | 517 Geddes    | 477 | 0     | 1052.206  | 668.4012966599998  |
| 517  | 518 Syracuse  | 0   | 0     | 0         | 0                  |
| 518  | 519 Dewitt    | 85  | 0     | 179.1074  | 112.3216           |
| 519  | 520 Syracuse  | 397 | 0     | 680.57111 | 505.45352793000006 |
| 520  | 521 Dewitt    | 0   | 0     | 0         | 0                  |
| 521  | 522 Syracuse  | 294 | 103   | 770.07    | 226.43033279999997 |
| 522  | 523 Syracuse  | 333 | 0     | 917.73205 | 207.1337           |
| 523  | 524 Syracuse  | 599 | 9     | 1433.805  | 370.25555120999996 |
| 524  | 525 Syracuse  | 484 | 0     | 1056.633  | 681.1846           |
| 1108 | 1114 Camillus | 245 | 0     | 642.19688 | 443.5983           |
| 1107 | 1113 Camillus | 160 | 0     | 414.4101  | 290.18637119999994 |
| 525  | 527 Syracuse  | 382 | 0     | 969.0223  | 320.10651876000003 |
| 526  | 528 Syracuse  | 480 | 0     | 969.00010 | 668.0001551999999  |
| 527  | 529 Syracuse  | 260 | 0     | 567.8162  | 380.53649920000004 |
| 528  | 530 Syracuse  | 0   | 0     | 0         | 0                  |
| 529  | 531 Syracuse  | 0   | 1     | 1         | 0                  |
| 530  | 532 Syracuse  | 423 | 0     | 968.93179 | 334.91541060000003 |
| 531  | 533 Manlius   | 732 | 5     | 1775.236  | 1286.1873180000002 |
| 532  | 534 Syracuse  | 117 | 0     | 0         | 0                  |
| 533  | 535 Syracuse  | 276 | 0     | 576.81992 | 392.15821008000006 |
| 534  | 536 Dewitt    | 0   | 6     | 6         | 0                  |
| 535  | 537 Syracuse  | 345 | 2     | 762.59055 | 504.0776369999999  |
| 536  | 538 Syracuse  | 290 | 0     | 686.8423  | 229.90135700000002 |
| 537  | 539 Syracuse  | 216 | 0     | 587.52023 | 186.24001248000002 |
| 538  | 540 Syracuse  | 300 | 0     | 689.4043  | 504.6358409999999  |
| 539  | 541 Syracuse  | 104 | 0     | 243.3208  | 177.5849           |
| 540  | 542 Syracuse  | 445 | 0     | 936.68608 | 649.6209991500001  |
| 541  | 543 Dewitt    | 500 | 0     | 1065.7374 | 641.4344           |
| 542  | 544 Syracuse  | 358 | 4     | 711.09960 | 493.48619905999993 |
| 543  | 545 Syracuse  | 361 | 0     | 848.15534 | 409.52147572000007 |
| 544  | 546 Syracuse  | 0   | 0     | 0         | 0                  |
| 545  | 547 Syracuse  | 372 | 0     | 703.11067 | 481.7055           |
| 546  | 548 Dewitt    | 318 | 0     | 686.9997  | 411.99981420000006 |
| 547  | 549 Dewitt    | 439 | 2     | 929.54874 | 562.8715           |
| 548  | 550 Geddes    | 109 | 0     | 220.9458  | 176.7567           |
| 549  | 551 Syracuse  | 195 | 0     | 409.30669 | 146.73270300000001 |
| 550  | 552 Syracuse  | 301 | 0     | 749.09048 | 333.1455           |
| 551  | 553 Syracuse  | 329 | 34    | 735.38470 | 474.5194           |
| 552  | 554 Syracuse  | 426 | 3     | 988.364   | 342.5268           |
| 553  | 555 Camillus  | 403 | 8     | 879.15558 | 662.4162           |
| 554  | 556 Camillus  | 337 | 0     | 865.8864  | 682.3952           |
| 555  | 557 Camillus  | 164 | 0     | 351.58933 | 287.5618           |
| 556  | 558 Syracuse  | 412 | 0     | 928.4927  | 683.6811800799999  |



| TAZ | Town_City    | HH  | HH_GQ | pop       | veh                |
|-----|--------------|-----|-------|-----------|--------------------|
| 557 | 559 Geddes   | 0   | 0     | 0         | 0                  |
| 558 | 560 Manlius  | 157 | 0     | 362.79702 | 287.4796           |
| 559 | 561 Syracuse | 375 | 0     | 913.0857  | 302.73452249999997 |
| 560 | 562 Manlius  | 431 | 0     | 1065.956  | 756.8154           |
| 561 | 563 Syracuse | 643 | 0     | 1452.1591 | 715.7559579699999  |
| 562 | 564 Syracuse | 244 | 0     | 520.79029 | 292.2212           |
| 563 | 565 Syracuse | 310 | 0     | 540.00029 | 439.0001543000001  |
| 564 | 566 Syracuse | 269 | 0     | 571.7483  | 431.7891           |
| 565 | 567 Syracuse | 328 | 0     | 815.59433 | 365.20622080000004 |
| 566 | 568 Elbridge | 78  | 0     | 193.9737  | 152.9211           |
| 567 | 569 Elbridge | 209 | 0     | 414.95631 | 342.9223           |
| 568 | 570 Syracuse | 595 | 0     | 902.25415 | 569.6395           |
| 569 | 571 Syracuse | 542 | 0     | 1114.9998 | 625.9998591799999  |
| 570 | 572 Syracuse | 596 | 9     | 1173.953  | 448.2076           |
| 571 | 573 Dewitt   | 305 | 9     | 715.5184  | 489.3508           |
| 572 | 574 Syracuse | 410 | 14    | 737.7555  | 431.17342499999995 |
| 573 | 575 Syracuse | 387 | 7     | 886.632   | 488.79098459999994 |
| 574 | 576 Dewitt   | 331 | 0     | 737.54317 | 521.8465997300001  |
| 575 | 577 Syracuse | 125 | 0     | 300.7815  | 175.7813           |
| 576 | 578 Syracuse | 107 | 0     | 255       | 147.99999250000002 |
| 577 | 579 Syracuse | 499 | 0     | 1060.62   | 594.8865           |
| 578 | 580 Syracuse | 0   | 0     | 0         | 0                  |
| 579 | 581 Syracuse | 0   | 2     | 2         | 0                  |
| 580 | 582 Syracuse | 119 | 0     | 275.9997  | 153.9998           |
| 581 | 583 Syracuse | 161 | 0     | 343.5976  | 196.3414           |
| 582 | 584 Syracuse | 360 | 79    | 856.4681  | 484.84435680000007 |
| 583 | 585 Dewitt   | 1   | 0     | 1         | 1                  |
| 584 | 586 Dewitt   | 2   | 0     | 4         | 3                  |
| 585 | 587 Syracuse | 42  | 4     | 90.7392   | 57.521801399999994 |
| 586 | 588 Syracuse | 81  | 0     | 201.5121  | 116.5609           |
| 587 | 589 Syracuse | 53  | 0     | 128.4231  | 67.2693            |
| 588 | 590 Syracuse | 250 | 3     | 567.9223  | 313.95335000000006 |
| 589 | 591 Syracuse | 262 | 0     | 523.99957 | 344.17680827999993 |
| 590 | 592 Salina   | 690 | 3     | 1402.913  | 915.0210267000001  |
| 591 | 593 Dewitt   | 476 | 0     | 771.62057 | 621.3048167200001  |
| 592 | 594 Dewitt   | 373 | 7     | 857.04715 | 615.4497911200001  |
| 593 | 595 Manlius  | 660 | 0     | 1380.1821 | 1052.1884340000001 |
| 594 | 596 Dewitt   | 197 | 0     | 395.99956 | 285.99967499999997 |
| 595 | 597 Syracuse | 94  | 0     | 207.78945 | 119.72628660000001 |
| 596 | 598 Syracuse | 101 | 0     | 224.22    | 123.22             |
| 597 | 599 Dewitt   | 74  | 0     | 126.71234 | 95.28768           |
| 598 | 600 Syracuse | 323 | 0     | 663.7257  | 432.30798685999997 |
| 599 | 601 Syracuse | 231 | 6     | 530.3797  | 323.59494551999995 |



| TAZ  | Town_City     | HH  | HH_GQ | pop       | veh                |
|------|---------------|-----|-------|-----------|--------------------|
| 600  | 602 Syracuse  | 88  | 0     | 177.0002  | 114.00008399999999 |
| 601  | 603 Syracuse  | 244 | 8     | 549.79481 | 328.5352493600001  |
| 602  | 604 Syracuse  | 293 | 10    | 653.6543  | 394.1321847200001  |
| 603  | 605 Salina    | 91  | 0     | 187.871   | 122.31189880000001 |
| 604  | 606 Salina    | 572 | 0     | 1265.2114 | 795.39             |
| 605  | 607 Dewitt    | 52  | 0     | 100.0754  | 75.54712           |
| 606  | 608 Salina    | 0   | 0     | 0         | 0                  |
| 607  | 609 Salina    | 3   | 0     | 3         | 3                  |
| 608  | 610 Dewitt    | 4   | 0     | 4         | 4                  |
| 609  | 611 Dewitt    | 56  | 0     | 140.00008 | 97.33337600000002  |
| 610  | 612 Camillus  | 94  | 6     | 239.0142  | 188.0001           |
| 611  | 613 Camillus  | 61  | 0     | 170.3396  | 128.90560870000002 |
| 612  | 614 Camillus  | 208 | 0     | 488.86714 | 413.3512           |
| 613  | 615 Camillus  | 368 | 0     | 1020.365  | 770.5005           |
| 614  | 616 Dewitt    | 653 | 0     | 1516.001  | 1077               |
| 615  | 617 Van Buren | 19  | 0     | 48.55559  | 34.83335           |
| 616  | 618 Van Buren | 67  | 0     | 170.0001  | 133.00009870000002 |
| 617  | 619 Salina    | 59  | 0     | 115.9655  | 75.27588159999999  |
| 618  | 620 Salina    | 0   | 0     | 0         | 0                  |
| 619  | 621 Dewitt    | 1   | 0     | 4         | 2                  |
| 620  | 622 Dewitt    | 0   | 0     | 0         | 0                  |
| 621  | 623 Manlius   | 492 | 0     | 1230.5000 | 887.1975240000002  |
| 622  | 624 Manlius   | 63  | 0     | 146.99990 | 109.19992230000001 |
| 623  | 625 Manlius   | 70  | 0     | 161.9999  | 119                |
| 624  | 626 Manlius   | 288 | 0     | 708.61881 | 543.3403           |
| 625  | 627 Salina    | 794 | 0     | 1456.165  | 958.7921592000001  |
| 626  | 628 Salina    | 394 | 0     | 876.22395 | 550.3970313200001  |
| 1097 | 1103 Salina   | 0   | 0     | 0         | 0                  |
| 1096 | 1102 Salina   | 0   | 0     | 0         | 0                  |
| 1098 | 1104 Salina   | 290 | 0     | 661.9997  | 398.9998           |
| 627  | 630 Salina    | 0   | 0     | 0         | 0                  |
| 628  | 631 Dewitt    | 13  | 0     | 22.99999  | 15.99999           |
| 629  | 632 Dewitt    | 40  | 0     | 91.282000 | 65.64098           |
| 630  | 633 Salina    | 17  | 0     | 38.25     | 23.375             |
| 631  | 634 Salina    | 0   | 0     | 0         | 0                  |
| 632  | 635 Salina    | 71  | 0     | 169.3858  | 101.4286           |
| 633  | 636 Van Buren | 61  | 0     | 165.7168  | 124.03342890000002 |
| 634  | 637 Salina    | 473 | 0     | 1051.332  | 643.9156930800001  |
| 635  | 638 Dewitt    | 9   | 0     | 24.999974 | 13.99999           |
| 636  | 639 Geddes    | 398 | 0     | 954.3985  | 710.7862           |
| 637  | 640 Salina    | 250 | 0     | 504       | 320                |
| 638  | 641 Sullivan  | 155 | 0     | 328.17226 | 280.0689           |
| 639  | 642 Geddes    | 441 | 1     | 1010.579  | 774.5126           |



| TAZ | Town_City     | HH   | HH_GQ | pop       | veh                |
|-----|---------------|------|-------|-----------|--------------------|
| 640 | 643 Sullivan  | 93   | 0     | 232.4999  | 184.8928           |
| 641 | 644 Dewitt    | 0    | 15    | 15        | 0                  |
| 642 | 645 Salina    | 78   | 0     | 188.0002  | 110.00007719999999 |
| 643 | 646 Salina    | 532  | 0     | 1190.2865 | 718.9449383199999  |
| 644 | 647 Salina    | 18   | 0     | 46.42104  | 24.63157           |
| 645 | 648 Salina    | 236  | 0     | 505.00008 | 311                |
| 646 | 649 Salina    | 4    | 0     | 10        | 7                  |
| 647 | 650 Dewitt    | 210  | 0     | 557.7423  | 375.968            |
| 648 | 651 Dewitt    | 29   | 0     | 54.000032 | 41.00003           |
| 649 | 652 Salina    | 36   | 0     | 84.34297  | 54.51436439999999  |
| 650 | 653 Van Buren | 22   | 0     | 55.00005  | 44.00005           |
| 651 | 654 Salina    | 491  | 0     | 988.0115  | 709.4443           |
| 652 | 655 Salina    | 601  | 0     | 1390.06   | 833.8372           |
| 653 | 656 Elbridge  | 255  | 0     | 633.31957 | 481.7829           |
| 654 | 657 Salina    | 307  | 2     | 526.87146 | 396.12933291999997 |
| 655 | 658 Salina    | 417  | 0     | 898.84454 | 663.409            |
| 656 | 659 Sullivan  | 72   | 0     | 147.0857  | 124.45714080000002 |
| 657 | 660 Sullivan  | 184  | 0     | 357.04765 | 319.8095           |
| 658 | 661 Salina    | 1    | 0     | 1.5       | 1.5                |
| 659 | 662 Salina    | 54   | 0     | 131.0001  | 91.00008720000001  |
| 660 | 663 Salina    | 67   | 0     | 97.544201 | 80.79418779999999  |
| 661 | 664 Salina    | 115  | 0     | 234.00001 | 176                |
| 662 | 665 Salina    | 153  | 0     | 286.1299  | 229.5001           |
| 663 | 666 Geddes    | 247  | 0     | 598.00004 | 445.99992190000006 |
| 664 | 667 Salina    | 519  | 3     | 1201.0758 | 812.3055           |
| 665 | 668 Dewitt    | 17   | 0     | 37.1875   | 25.5               |
| 666 | 669 Van Buren | 148  | 0     | 377.19416 | 294.97206600000004 |
| 667 | 670 Van Buren | 61   | 0     | 159.3869  | 121.01602120000001 |
| 668 | 671 Sullivan  | 186  | 0     | 482.1032  | 376.27560431999996 |
| 669 | 672 Dewitt    | 0    | 0     | 0         | 0                  |
| 670 | 673 Dewitt    | 13   | 23    | 46.472212 | 18.41666           |
| 671 | 674 Manlius   | 173  | 0     | 438.1302  | 328.59767050000005 |
| 672 | 675 Manlius   | 233  | 7     | 539.2846  | 422.81477809999996 |
| 673 | 676 Salina    | 328  | 6     | 762.54845 | 449.0481           |
| 674 | 677 Salina    | 419  | 0     | 859.10104 | 656.1322329499999  |
| 675 | 678 Van Buren | 86   | 0     | 207.8334  | 165.85709740000001 |
| 676 | 679 Salina    | 1032 | 0     | 2364.611  | 1721.0315493599999 |
| 677 | 680 Salina    | 179  | 0     | 412.69436 | 295.3499           |
| 678 | 681 Salina    | 484  | 0     | 1152.9999 | 826.9999584000001  |
| 679 | 682 Van Buren | 37   | 0     | 90.586212 | 61.2414            |
| 680 | 683 Salina    | 271  | 7     | 634.78426 | 423.07205650000003 |
| 681 | 684 Salina    | 103  | 0     | 225.99999 | 177.99998354000002 |
| 682 | 685 Salina    | 312  | 7     | 670.975   | 502.125            |



| TAZ  | Town_City     | HH  | HH_GQ | pop       | veh                |
|------|---------------|-----|-------|-----------|--------------------|
| 683  | 686 Dewitt    | 67  | 0     | 135.9999  | 103.9999           |
| 684  | 687 Salina    | 285 | 0     | 525       | 395.00005919999995 |
| 685  | 688 Van Buren | 182 | 0     | 488.0003  | 367.00017900000006 |
| 686  | 689 Van Buren | 0   | 1     | 1         | 0                  |
| 687  | 690 Dewitt    | 13  | 0     | 24.99999  | 17.99999           |
| 688  | 691 Dewitt    | 2   | 0     | 5         | 3                  |
| 689  | 692 Salina    | 273 | 19    | 571.5447  | 440.35294211999997 |
| 690  | 693 Salina    | 470 | 0     | 773.3544  | 653.609            |
| 691  | 694 Geddes    | 11  | 0     | 26.4      | 19.8               |
| 692  | 695 Salina    | 4   | 0     | 9         | 6                  |
| 693  | 696 Van Buren | 2   | 0     | 4         | 4                  |
| 694  | 697 Salina    | 200 | 0     | 453       | 356                |
| 695  | 698 Salina    | 287 | 0     | 703.451   | 537.8741           |
| 696  | 699 Sullivan  | 75  | 0     | 162.85708 | 137.14280250000002 |
| 697  | 700 Van Buren | 183 | 0     | 398.8203  | 298.3694           |
| 698  | 701 Salina    | 567 | 0     | 1210.0103 | 909.0487           |
| 1101 | 1107 Clay     | 10  | 0     | 22        | 14                 |
| 1102 | 1108 Clay     | 50  | 0     | 104.08157 | 71.42853           |
| 699  | 703 Van Buren | 105 | 0     | 280.3399  | 208.9806           |
| 700  | 704 Geddes    | 104 | 6     | 258.97277 | 189.2611           |
| 701  | 705 Salina    | 547 | 5     | 1106.942  | 731.6500788999999  |
| 702  | 706 Salina    | 4   | 0     | 6         | 4                  |
| 703  | 707 Geddes    | 0   | 0     | 0         | 0                  |
| 704  | 708 Van Buren | 489 | 0     | 1105.43   | 806.0209           |
| 705  | 709 Clay      | 52  | 0     | 113.90479 | 91.61908079999999  |
| 706  | 710 Clay      | 47  | 0     | 67.14286  | 57.07143260000001  |
| 707  | 711 Salina    | 30  | 0     | 70.34482  | 53.7931            |
| 1099 | 1105 Salina   | 0   | 0     | 0         | 0                  |
| 1100 | 1106 Salina   | 4   | 0     | 12        | 8                  |
| 708  | 713 Clay      | 157 | 0     | 386.4613  | 297.53121810000005 |
| 709  | 714 Clay      | 1   | 0     | 4         | 2                  |
| 710  | 715 Clay      | 225 | 0     | 447.9911  | 361.60713899999996 |
| 711  | 716 Cicero    | 10  | 0     | 16.66665  | 12.22221           |
| 712  | 717 Van Buren | 266 | 0     | 630.56891 | 459.08663892000004 |
| 713  | 718 Van Buren | 15  | 0     | 40.000027 | 27.000014999999998 |
| 714  | 719 Cicero    | 16  | 0     | 36.26665  | 25.59999           |
| 715  | 720 Cicero    | 29  | 0     | 68        | 47.000001299999994 |
| 716  | 721 Cicero    | 16  | 0     | 46        | 29                 |
| 717  | 722 Van Buren | 160 | 0     | 355       | 261                |
| 718  | 723 Salina    | 654 | 0     | 1586.427  | 1178.8033333199999 |
| 719  | 724 Salina    | 38  | 0     | 106.81070 | 74.97290179999999  |
| 720  | 725 Clay      | 368 | 0     | 623.30600 | 508.6177           |
| 721  | 726 Clay      | 376 | 0     | 813.9996  | 588.9996           |



| TAZ | Town_City     | HH   | HH_GQ | pop       | veh                 |
|-----|---------------|------|-------|-----------|---------------------|
| 722 | 727 Clay      | 223  | 0     | 513.30200 | 368.65316359999997  |
| 723 | 728 Cicero    | 0    | 0     | 0         | 0                   |
| 724 | 729 Salina    | 447  | 6     | 855.3991  | 710.6408145600001   |
| 725 | 730 Salina    | 72   | 0     | 154.8493  | 125.2603            |
| 726 | 731 Clay      | 277  | 0     | 690.46355 | 535.6694            |
| 727 | 732 Clay      | 8    | 0     | 18        | 9                   |
| 728 | 733 Clay      | 0    | 0     | 0         | 0                   |
| 729 | 734 Cicero    | 1    | 0     | 1         | 1                   |
| 730 | 735 Cicero    | 172  | 0     | 359.0879  | 253.473854400000002 |
| 731 | 736 Clay      | 552  | 7     | 1205.148  | 831.4690439999999   |
| 732 | 737 Cicero    | 12   | 0     | 18.545437 | 14.1818             |
| 733 | 738 Lysander  | 195  | 0     | 475.24575 | 383.6065            |
| 734 | 739 Lysander  | 100  | 0     | 238.77555 | 194.897970000000002 |
| 735 | 740 Clay      | 510  | 0     | 816       | 624.9999510000001   |
| 736 | 741 Van Buren | 200  | 0     | 367       | 299                 |
| 737 | 742 Salina    | 611  | 0     | 997.52990 | 918.0092860899999   |
| 738 | 743 Cicero    | 421  | 0     | 865.1648  | 630.4925890999999   |
| 739 | 744 Cicero    | 28   | 0     | 49.777730 | 40.444404000000006  |
| 740 | 745 Clay      | 223  | 0     | 524.3516  | 415.865             |
| 741 | 746 Clay      | 445  | 0     | 1014.842  | 716.8328779999999   |
| 742 | 747 Clay      | 738  | 0     | 1257.9544 | 1055.6332885800002  |
| 743 | 748 Clay      | 1    | 0     | 2         | 2                   |
| 744 | 749 Clay      | 56   | 0     | 105.99994 | 75.99995200000001   |
| 745 | 750 Clay      | 1461 | 8     | 3111.747  | 2072.5119377100004  |
| 746 | 751 Cicero    | 0    | 0     | 0         | 0                   |
| 747 | 752 Cicero    | 318  | 5     | 671.80624 | 471.0375            |
| 748 | 753 Clay      | 288  | 0     | 684.6593  | 528.5274            |
| 749 | 754 Clay      | 587  | 0     | 1382.712  | 933.1799040999999   |
| 750 | 755 Clay      | 390  | 0     | 954.0011  | 743.0009            |
| 751 | 756 Clay      | 6    | 0     | 11.00001  | 11.00001            |
| 752 | 757 Van Buren | 692  | 0     | 1349.348  | 1055.834            |
| 753 | 758 Cicero    | 61   | 0     | 144.08616 | 95.7069             |
| 754 | 759 Cicero    | 147  | 0     | 300.04117 | 217.47950279999998  |
| 755 | 760 Cicero    | 195  | 0     | 429.5942  | 298.93414199999995  |
| 756 | 761 Clay      | 537  | 0     | 1378.4326 | 994.1483            |
| 757 | 762 Clay      | 366  | 0     | 930.5429  | 656.7947921400001   |
| 758 | 763 Salina    | 205  | 0     | 479.3241  | 373.3577            |
| 759 | 764 Lysander  | 440  | 0     | 1090.867  | 825.2070640000001   |
| 760 | 765 Cicero    | 9    | 0     | 24.75     | 16.875              |
| 761 | 766 Cicero    | 49   | 0     | 89.179999 | 70.55999999999999   |
| 762 | 767 Van Buren | 80   | 0     | 187       | 136                 |
| 763 | 768 Clay      | 244  | 0     | 599.9177  | 446.66139799999996  |
| 764 | 769 Cicero    | 124  | 0     | 286.688   | 210.30399999999997  |



| TAZ | Town_City     | HH  | HH_GQ | pop       | veh                 |
|-----|---------------|-----|-------|-----------|---------------------|
| 765 | 770 Cicero    | 76  | 0     | 171.0001  | 118.22233200000002  |
| 766 | 771 Van Buren | 656 | 0     | 1321.069  | 1002.6419915200001  |
| 767 | 772 Van Buren | 179 | 0     | 427.61123 | 350.0444            |
| 768 | 773 Van Buren | 112 | 0     | 268.9998  | 217.9998            |
| 769 | 774 Clay      | 466 | 0     | 1093.6939 | 793.405             |
| 770 | 775 Van Buren | 258 | 0     | 472.83275 | 380.4747            |
| 771 | 776 Van Buren | 47  | 0     | 112.22458 | 89.20416            |
| 772 | 777 Van Buren | 27  | 0     | 64.999970 | 53.999973000000004  |
| 773 | 778 Clay      | 500 | 0     | 1177.7115 | 805.2216            |
| 774 | 779 Clay      | 135 | 0     | 330.4477  | 217.6119            |
| 775 | 780 Cicero    | 143 | 0     | 341.77992 | 266.7304            |
| 776 | 781 Clay      | 216 | 0     | 517.0002  | 391.0002            |
| 777 | 782 Clay      | 473 | 0     | 1070.5270 | 822.4781501200002   |
| 778 | 783 Cicero    | 25  | 0     | 51.923085 | 36.538465000000001  |
| 779 | 784 Cicero    | 421 | 3     | 854.92903 | 621.57071500000001  |
| 780 | 785 Clay      | 551 | 0     | 1424.7569 | 1037.6491508000001  |
| 781 | 786 Lysander  | 426 | 0     | 1279.8051 | 870.0508            |
| 782 | 787 Lysander  | 483 | 0     | 1170.9096 | 886.7199            |
| 783 | 788 Clay      | 303 | 0     | 729.59198 | 559.15453350000001  |
| 784 | 789 Clay      | 88  | 0     | 235.32551 | 175.99980639999998  |
| 785 | 790 Van Buren | 122 | 0     | 298.5411  | 183.7175            |
| 786 | 791 Clay      | 415 | 0     | 973.9989  | 733.99933650000003  |
| 787 | 792 Cicero    | 228 | 0     | 624.73994 | 427.876564800000004 |
| 788 | 793 Clay      | 3   | 0     | 3         | 3                   |
| 789 | 794 Clay      | 391 | 0     | 958.9996  | 710.99967850000001  |
| 790 | 795 Clay      | 750 | 5     | 2109.8082 | 1539.054            |
| 791 | 796 Van Buren | 60  | 0     | 136.271   | 100.6779            |
| 792 | 797 Van Buren | 125 | 0     | 327.83013 | 196.9339            |
| 793 | 798 Van Buren | 756 | 0     | 1099.2408 | 857.3790103199999   |
| 794 | 799 Clay      | 5   | 0     | 5         | 5                   |
| 795 | 800 Lysander  | 543 | 0     | 1642.1202 | 1112.241            |
| 796 | 801 Cicero    | 455 | 9     | 1183.0002 | 858.9999144999999   |
| 797 | 802 Clay      | 90  | 0     | 208.6362  | 156.47715899999997  |
| 798 | 803 Clay      | 228 | 0     | 505.2158  | 407.7884            |
| 799 | 804 Cicero    | 42  | 0     | 87.315841 | 76.26321            |
| 800 | 805 Cicero    | 0   | 0     | 0         | 0                   |
| 801 | 806 Cicero    | 7   | 0     | 18.200000 | 14                  |
| 802 | 807 Cicero    | 511 | 0     | 1111.1744 | 806.5785            |
| 803 | 808 Clay      | 262 | 4     | 670.4559  | 497.10245120000001  |
| 804 | 809 Van Buren | 384 | 15    | 900.20121 | 564.0895            |
| 805 | 810 Van Buren | 110 | 0     | 243.7837  | 157.56747159999998  |
| 806 | 811 Van Buren | 93  | 0     | 234.00019 | 142.0001            |
| 807 | 812 Van Buren | 301 | 0     | 811.95126 | 612.7124            |



| TAZ | Town_City     | HH   | HH_GQ | pop       | veh                |
|-----|---------------|------|-------|-----------|--------------------|
| 808 | 813 Clay      | 1276 | 3     | 3041.962  | 2269.1180221600002 |
| 809 | 814 Van Buren | 171  | 0     | 410.4     | 255.81600000000003 |
| 810 | 815 Lysander  | 226  | 4     | 685.244   | 463.89468509999995 |
| 811 | 816 Lysander  | 113  | 0     | 319.9554  | 220.92152009999998 |
| 812 | 817 Cicero    | 467  | 0     | 836.79170 | 724.5513           |
| 813 | 818 Sullivan  | 22   | 0     | 56        | 45.00001           |
| 814 | 819 Sullivan  | 47   | 0     | 95.04444  | 81.46666           |
| 815 | 820 Clay      | 29   | 0     | 70.999960 | 49.99999           |
| 816 | 821 Lysander  | 103  | 0     | 194.99998 | 154                |
| 817 | 822 Lysander  | 112  | 0     | 252.0001  | 184                |
| 818 | 823 Lysander  | 185  | 0     | 413.7635  | 307.33874249999997 |
| 819 | 824 Lysander  | 191  | 0     | 429.2136  | 349.80897460000006 |
| 820 | 825 Lysander  | 134  | 0     | 319.61449 | 227.30347640000002 |
| 821 | 826 Clay      | 393  | 0     | 1038.2833 | 753.8357           |
| 822 | 827 Clay      | 619  | 0     | 1678.558  | 1194.6493872999997 |
| 823 | 828 Cicero    | 611  | 0     | 1665.535  | 1166.1786733999998 |
| 824 | 829 Clay      | 103  | 0     | 221.14705 | 180.7549           |
| 825 | 830 Cicero    | 217  | 0     | 499.20175 | 384.0797           |
| 826 | 831 Clay      | 614  | 0     | 1603.165  | 1160.3293223800001 |
| 827 | 832 Clay      | 1    | 0     | 1         | 1                  |
| 828 | 833 Clay      | 328  | 0     | 937.72933 | 658.0557           |
| 829 | 834 Cicero    | 221  | 0     | 449.09629 | 358.8715           |
| 830 | 835 Lysander  | 181  | 0     | 478.6443  | 368.0332           |
| 831 | 836 Lysander  | 314  | 0     | 813.6242  | 610.6517           |
| 832 | 837 Clay      | 533  | 0     | 1357.279  | 898.1096424300001  |
| 833 | 838 Clay      | 473  | 0     | 1289.653  | 933.3186           |
| 834 | 839 Lysander  | 193  | 0     | 479.53984 | 348.1104986200001  |
| 835 | 840 Lysander  | 74   | 0     | 151.7     | 117.16666420000001 |
| 836 | 841 Clay      | 977  | 0     | 2698.622  | 1883.2769239999998 |
| 837 | 842 Lysander  | 257  | 0     | 532.4305  | 402.3946           |
| 838 | 843 Sullivan  | 163  | 0     | 344.688   | 293.81539409000004 |
| 839 | 844 Lysander  | 307  | 0     | 867.1748  | 576.1231474100001  |
| 840 | 845 Lysander  | 181  | 0     | 534.5816  | 344.1106           |
| 841 | 846 Lysander  | 647  | 4     | 1660.455  | 1156.244           |
| 842 | 847 Lysander  | 154  | 0     | 337.99992 | 256.9999           |
| 843 | 848 Lysander  | 162  | 0     | 413.4963  | 325.1327           |
| 844 | 849 Cicero    | 229  | 0     | 547.0002  | 420.00024379999996 |
| 845 | 850 Cicero    | 503  | 0     | 1080.7032 | 840.6576627999999  |
| 846 | 851 Clay      | 1196 | 2     | 3095.904  | 2334.522           |
| 847 | 852 Cicero    | 104  | 0     | 282.60890 | 187.65231680000002 |
| 848 | 853 Cicero    | 179  | 0     | 378.28632 | 270.8865           |
| 849 | 854 Cicero    | 31   | 0     | 86.79995  | 57.86664           |
| 850 | 855 Cicero    | 371  | 0     | 1129.816  | 720.9803494600001  |



| TAZ  | Town_City    | HH   | HH_GQ | pop       | veh                |
|------|--------------|------|-------|-----------|--------------------|
| 851  | 856 Cicero   | 134  | 0     | 376.8121  | 247.84964279999997 |
| 852  | 857 Clay     | 396  | 0     | 775.40798 | 700.1902472399998  |
| 853  | 858 Clay     | 728  | 0     | 1876.58   | 1420.9532864799999 |
| 854  | 859 Clay     | 1074 | 0     | 2406.745  | 1740.3724612199999 |
| 855  | 860 Sullivan | 136  | 0     | 348       | 273.3333           |
| 856  | 861 Clay     | 648  | 0     | 1934.017  | 1315.9701936000001 |
| 857  | 862 Clay     | 8    | 0     | 18.285695 | 14.85713           |
| 858  | 863 Clay     | 230  | 0     | 601.22850 | 451.93010499999997 |
| 859  | 864 Clay     | 127  | 0     | 309.2176  | 242.95665150000002 |
| 860  | 865 Sullivan | 69   | 0     | 154.72743 | 128.591            |
| 861  | 866 Cicero   | 430  | 0     | 1134.099  | 798.8627           |
| 862  | 867 Clay     | 224  | 0     | 524.4871  | 415.2191           |
| 863  | 868 Clay     | 146  | 0     | 313.90000 | 262.8              |
| 864  | 869 Lysander | 302  | 0     | 869.92526 | 591.6317           |
| 865  | 870 Lysander | 600  | 0     | 1357.448  | 985.1072999999999  |
| 866  | 871 Cicero   | 56   | 0     | 136.5     | 101.5              |
| 867  | 872 Cicero   | 6    | 0     | 13.200000 | 9.600000000000001  |
| 868  | 873 Cicero   | 586  | 0     | 1653.4331 | 1105.557           |
| 869  | 874 Cicero   | 302  | 0     | 661.40510 | 529.1239863599999  |
| 870  | 875 Cicero   | 460  | 0     | 1289.509  | 862.9046           |
| 871  | 876 Clay     | 38   | 0     | 0         | 0                  |
| 872  | 877 Clay     | 0    | 0     | 0         | 0                  |
| 873  | 878 Lysander | 533  | 0     | 913.13132 | 712.3649201499999  |
| 874  | 879 Clay     | 102  | 0     | 223.38000 | 183.6              |
| 875  | 880 Clay     | 3    | 0     | 6         | 6                  |
| 876  | 881 Clay     | 8    | 0     | 19.42855  | 15.999983999999998 |
| 877  | 882 Clay     | 65   | 0     | 153.99997 | 119.99997750000003 |
| 878  | 883 Lysander | 24   | 0     | 69.47364  | 50.52629280000001  |
| 879  | 884 Cicero   | 923  | 0     | 2548.0030 | 1789.002           |
| 880  | 885 Cicero   | 282  | 0     | 790.3948  | 548.113            |
| 881  | 886 Cicero   | 180  | 0     | 460.5589  | 327.8212740000001  |
| 882  | 887 Clay     | 325  | 0     | 487.5     | 487.5              |
| 883  | 888 Clay     | 15   | 0     | 33.21431  | 27.857163000000007 |
| 884  | 889 Clay     | 23   | 0     | 61.681860 | 46.00004           |
| 885  | 890 Lysander | 350  | 0     | 843.80651 | 628.0967           |
| 886  | 891 Lysander | 265  | 0     | 693.6449  | 526.8323755000001  |
| 887  | 892 Lysander | 214  | 0     | 561.6237  | 431.01363359999993 |
| 888  | 893 Clay     | 27   | 0     | 66.46156  | 54.00001           |
| 889  | 894 Clay     | 6    | 0     | 10.800000 | 10.8               |
| 890  | 895 Lysander | 630  | 7     | 1413.726  | 1043.501           |
| 891  | 896 Lysander | 253  | 0     | 675.0086  | 516.2431856999999  |
| 1106 | 1112 Clay    | 122  | 0     | 280.34043 | 212.85105760000002 |
| 1103 | 1109 Clay    | 9    | 0     | 19.800000 | 17.1               |



|      | TAZ  | Town_City | HH  | HH_GQ | pop       | veh                |
|------|------|-----------|-----|-------|-----------|--------------------|
| 1104 | 1110 | Clay      | 12  | 0     | 26.999996 | 23.999997600000004 |
| 1105 | 1111 | Clay      | 10  | 0     | 22.72727  | 20                 |
| 892  | 898  | Clay      | 51  | 0     | 126.39130 | 97.56522           |
| 893  | 899  | Clay      | 26  | 0     | 49.636368 | 49.636368600000004 |
| 894  | 900  | Clay      | 22  | 0     | 61.599999 | 46.2               |
| 895  | 901  | Clay      | 48  | 0     | 117.12    | 96                 |
| 896  | 902  | Cicero    | 434 | 0     | 1085.5385 | 790.4614298000001  |
| 897  | 903  | Cicero    | 112 | 0     | 217.97854 | 169.8065           |
| 898  | 904  | Cicero    | 120 | 0     | 222.8571  | 180                |
| 899  | 905  | Cicero    | 155 | 0     | 366.4642  | 271.24995350000006 |
| 900  | 906  | Clay      | 29  | 0     | 76.961513 | 60.23076           |
| 901  | 907  | Clay      | 55  | 0     | 127.59999 | 105.60000000000001 |
| 902  | 908  | Clay      | 119 | 0     | 261.80001 | 218.33914725000005 |
| 903  | 909  | Lysander  | 395 | 0     | 1005.4552 | 713.0523409999998  |
| 904  | 910  | Lysander  | 86  | 0     | 192.1728  | 164.5679           |
| 905  | 911  | Schroeppe | 62  | 0     | 117.90166 | 104.68853139999999 |
| 906  | 912  | Cicero    | 303 | 0     | 669.04042 | 516.5235849000001  |
| 907  | 913  | Cicero    | 89  | 0     | 230.5911  | 169.9092           |
| 908  | 914  | Schroeppe | 103 | 4     | 233.54290 | 156.9524           |
| 909  | 915  | Lysander  | 142 | 0     | 385.8697  | 295.319            |
| 910  | 916  | Cicero    | 500 | 0     | 1373.482  | 949.3931           |
| 911  | 917  | Schroeppe | 144 | 0     | 343.14906 | 220.59587520000002 |
| 912  | 918  | Clay      | 191 | 0     | 470.3883  | 363.7128           |
| 913  | 919  | Clay      | 190 | 0     | 480.51587 | 361.6128           |
| 914  | 920  | Schroeppe | 86  | 0     | 207.229   | 132.6266           |
| 915  | 921  | Schroeppe | 93  | 0     | 212.5713  | 142.0548           |
| 916  | 922  | Clay      | 203 | 0     | 520.9521  | 391.3256           |
| 917  | 923  | Clay      | 37  | 0     | 88.034388 | 72.72406           |
| 918  | 924  | Schroeppe | 167 | 0     | 390.36249 | 250.5              |
| 919  | 925  | Schroeppe | 79  | 0     | 150.7236  | 103.9473           |
| 920  | 926  | Schroeppe | 56  | 0     | 145.18534 | 95.40751920000002  |
| 921  | 927  | Cicero    | 281 | 0     | 809.57698 | 553.3347           |
| 922  | 928  | Cicero    | 399 | 0     | 801.06960 | 630.2156760900001  |
| 923  | 929  | Cicero    | 417 | 0     | 1140.617  | 791.0735           |
| 924  | 930  | Schroeppe | 85  | 0     | 179.1072  | 122.4405           |
| 925  | 931  | Schroeppe | 31  | 0     | 57.72414  | 43.8276            |
| 926  | 932  | Schroeppe | 52  | 0     | 134.7754  | 84.8979            |
| 927  | 933  | Cicero    | 126 | 0     | 265       | 205.99997544000001 |
| 928  | 934  | Cicero    | 137 | 0     | 308.25    | 230.68389073999998 |
| 929  | 935  | Schroeppe | 146 | 0     | 244.3472  | 185.5417           |
| 930  | 936  | Hastings  | 75  | 0     | 159.64279 | 140.35708499999998 |
| 931  | 937  | Hastings  | 131 | 0     | 276.67199 | 208.552            |
| 932  | 938  | Hastings  | 166 | 0     | 370.14877 | 312.40972912000007 |



| TAZ | Town_City     | HH  | HH_GQ | pop       | veh                |
|-----|---------------|-----|-------|-----------|--------------------|
| 933 | 939 Hastings  | 99  | 0     | 226.2856  | 164.27462040000003 |
| 934 | 940 Hastings  | 144 | 0     | 369.0003  | 261.0001           |
| 935 | 941 Hastings  | 227 | 0     | 295.9107  | 249.29467560999996 |
| 936 | 942 Hastings  | 104 | 0     | 237.28156 | 174.6796           |
| 937 | 943 Hastings  | 81  | 0     | 182.7974  | 134.6353           |
| 938 | 944 Hastings  | 184 | 7     | 468.0339  | 313.21362095999996 |
| 939 | 945 Hastings  | 118 | 0     | 222.42464 | 209.89367527999997 |
| 940 | 946 Hastings  | 211 | 0     | 574.0909  | 386.65448269999999 |
| 941 | 947 Hastings  | 24  | 0     | 54.999993 | 43.99999           |
| 942 | 948 Hastings  | 101 | 0     | 242.83    | 197.70227830000002 |
| 943 | 949 Hastings  | 22  | 0     | 54.52178  | 44.00003           |
| 944 | 950 Hastings  | 20  | 0     | 64        | 45                 |
| 945 | 951 Hastings  | 130 | 0     | 253.55369 | 235.2892           |
| 946 | 952 Hastings  | 22  | 0     | 55.523802 | 42.952370999999999 |
| 947 | 953 Hastings  | 84  | 0     | 222.22787 | 171.18989159999995 |
| 948 | 954 Hastings  | 3   | 0     | 9.75      | 6.75               |
| 949 | 955 West Monr | 104 | 0     | 261.04    | 206.96             |
| 950 | 956 Hastings  | 125 | 0     | 338.8431  | 256.1985           |
| 951 | 957 Sullivan  | 58  | 0     | 142.92859 | 113.9286           |
| 952 | 958 Sullivan  | 56  | 0     | 125.2364  | 107.92728240000002 |
| 953 | 959 Sullivan  | 138 | 5     | 344.5392  | 269.0502           |
| 954 | 960 Sullivan  | 268 | 0     | 609.93096 | 513.4099           |
| 955 | 961 Sullivan  | 91  | 0     | 223.4554  | 181.99992719999997 |
| 956 | 962 Sullivan  | 30  | 0     | 70.000019 | 60.00001           |
| 957 | 963 Sullivan  | 93  | 0     | 183.93324 | 162.23323620000002 |
| 958 | 964 Sullivan  | 300 | 0     | 715.8619  | 583.4481           |
| 959 | 965 Sullivan  | 66  | 0     | 147.4688  | 125.8125           |
| 960 | 966 Sullivan  | 83  | 0     | 213.573   | 169.0365           |
| 961 | 967 Sullivan  | 177 | 0     | 392.4344  | 329.72579343000007 |
| 962 | 968 Sullivan  | 8   | 0     | 18.285695 | 14.85713           |
| 963 | 969 Sullivan  | 35  | 0     | 81.323553 | 66.91178           |
| 964 | 970 Sullivan  | 31  | 0     | 84.28125  | 64.90625           |
| 965 | 971 Sullivan  | 16  | 0     | 42        | 33                 |
| 966 | 972 Sullivan  | 12  | 0     | 22.909076 | 18.545441999999998 |
| 967 | 973 Sullivan  | 51  | 0     | 133       | 98.99996           |
| 968 | 974 Sullivan  | 42  | 0     | 103.4634  | 83.99997060000001  |
| 969 | 975 Sullivan  | 106 | 0     | 268.05738 | 204.86518240000004 |
| 970 | 976 Sullivan  | 43  | 0     | 116.7144  | 87.02387300000001  |
| 971 | 977 Sullivan  | 91  | 0     | 235.1686  | 185.06758270000003 |
| 972 | 978 Sullivan  | 24  | 0     | 60.000016 | 50.00001           |
| 973 | 979 Sullivan  | 40  | 0     | 94.35894  | 78.97433           |
| 974 | 980 Sullivan  | 93  | 0     | 235.5326  | 188.02167120000001 |
| 975 | 981 Sullivan  | 71  | 0     | 178.51408 | 138.957            |



| TAZ  | Town_City      | HH  | HH_GQ | pop       | veh                |
|------|----------------|-----|-------|-----------|--------------------|
| 976  | 982 Sullivan   | 181 | 0     | 448.3865  | 350.6875           |
| 977  | 983 Sullivan   | 8   | 0     | 20        | 17                 |
| 978  | 984 Sullivan   | 86  | 0     | 210.90467 | 168.92850140000002 |
| 979  | 985 Sullivan   | 24  | 0     | 64.363667 | 46.90911           |
| 980  | 986 Sullivan   | 93  | 0     | 256.0109  | 187.0447           |
| 981  | 987 Sullivan   | 30  | 0     | 70.34478  | 56.89651199999999  |
| 982  | 988 Sullivan   | 123 | 0     | 323.1358  | 252.2543           |
| 983  | 989 Sullivan   | 128 | 0     | 329.14307 | 224.50805759999997 |
| 984  | 990 Sullivan   | 52  | 0     | 120.00008 | 101.00010440000001 |
| 985  | 991 Sullivan   | 33  | 0     | 77.647036 | 63.08821           |
| 986  | 992 Sullivan   | 490 | 0     | 1159.769  | 815.6392999999999  |
| 987  | 993 Sullivan   | 150 | 0     | 324.82741 | 272.0688           |
| 988  | 994 Sullivan   | 75  | 0     | 162.1621  | 117.56755500000001 |
| 989  | 995 Sullivan   | 326 | 7     | 760.9995  | 524.9999           |
| 990  | 996 Sullivan   | 475 | 0     | 1143.898  | 786.8791100000001  |
| 991  | 997 Sullivan   | 120 | 0     | 262.7586  | 192.4138           |
| 992  | 998 Sullivan   | 294 | 5     | 790.8851  | 589.1311943999999  |
| 993  | 999 Sullivan   | 8   | 0     | 22.85712  | 19.428551999999996 |
| 994  | 1000 Sullivan  | 32  | 0     | 74.32249  | 57.80638           |
| 995  | 1001 Sullivan  | 31  | 0     | 77.999983 | 61.999978299999995 |
| 996  | 1002 Sullivan  | 31  | 0     | 78.9999   | 59.99992029999999  |
| 997  | 1003 Sullivan  | 64  | 0     | 141.4193  | 121.80643199999999 |
| 998  | 1004 Sullivan  | 35  | 0     | 73.088263 | 67.9412            |
| 999  | 1005 Sullivan  | 21  | 0     | 50.400000 | 40.95              |
| 1000 | 1006 Sullivan  | 100 | 0     | 223.4694  | 164.2856           |
| 1001 | 1007 Sullivan  | 70  | 0     | 149.1305  | 129.8551           |
| 1002 | 1008 Sullivan  | 35  | 0     | 88.000118 | 69.0001            |
| 1003 | 1009 Granby    | 45  | 0     | 104.31814 | 77.72725349999999  |
| 1004 | 1010 Schroeppe | 58  | 0     | 131.26304 | 105.82446259999998 |
| 1005 | 1011 Schroeppe | 139 | 0     | 366.9192  | 272.8897           |
| 1006 | 1012 Schroeppe | 79  | 0     | 211.00022 | 153.0002           |
| 1007 | 1013 Schroeppe | 29  | 0     | 70.88882  | 55.851804699999995 |
| 1008 | 1014 Schroeppe | 40  | 0     | 104       | 80                 |
| 1009 | 1015 Schroeppe | 34  | 0     | 78.99995  | 62.99995           |
| 1010 | 1016 Schroeppe | 17  | 0     | 39.66666  | 31.166664400000005 |
| 1011 | 1017 Schroeppe | 68  | 0     | 164.41775 | 129.9104           |
| 1012 | 1018 Schroeppe | 30  | 0     | 70.64517  | 57.09679499999999  |
| 1013 | 1019 Schroeppe | 34  | 0     | 102       | 73.3125            |
| 1014 | 1020 Schroeppe | 42  | 0     | 115.5     | 86.1               |
| 1015 | 1021 Schroeppe | 67  | 0     | 172.57582 | 128.92428099999998 |
| 1016 | 1022 Schroeppe | 15  | 0     | 31.071426 | 26.78571           |
| 1017 | 1023 Schroeppe | 217 | 0     | 574.8958  | 419.6019           |
| 1018 | 1024 Schroeppe | 57  | 0     | 134.05558 | 106.6111           |



| TAZ  | Town_City       | HH  | HH_GQ | pop       | veh                |
|------|-----------------|-----|-------|-----------|--------------------|
| 1019 | 1025 Schroepppe | 97  | 0     | 239.46879 | 182.88547809999997 |
| 1020 | 1026 Schroepppe | 30  | 0     | 76.071486 | 60.00005           |
| 1021 | 1027 Schroepppe | 47  | 0     | 122.19994 | 95.04437759999999  |
| 1022 | 1028 Schroepppe | 55  | 0     | 122.69237 | 99.4231            |
| 1023 | 1029 Schroepppe | 204 | 0     | 435.67815 | 354.6933           |
| 1024 | 1030 Schroepppe | 47  | 0     | 101.15227 | 85.82615           |
| 1025 | 1031 Schroepppe | 56  | 0     | 141.03695 | 110.96290800000003 |
| 1026 | 1032 Schroepppe | 267 | 0     | 681.87653 | 513.4613           |
| 1027 | 1033 Schroepppe | 100 | 0     | 280.20853 | 203.1251           |
| 1028 | 1034 Schroepppe | 173 | 0     | 399.86821 | 318.02996895999996 |
| 1029 | 1035 Schroepppe | 29  | 0     | 65.73334  | 53.16668           |
| 1030 | 1036 Schroepppe | 61  | 0     | 151.98304 | 117.8644           |
| 1031 | 1037 Schroepppe | 11  | 0     | 21.083331 | 19.25              |
| 1032 | 1038 Schroepppe | 21  | 0     | 40.949999 | 35.7               |
| 1033 | 1039 Schroepppe | 39  | 0     | 104.35126 | 79.05399           |
| 1034 | 1040 Hastings   | 70  | 0     | 165.3623  | 117.68115100000003 |
| 1035 | 1041 Hastings   | 39  | 0     | 97.499984 | 70.81578           |
| 1036 | 1042 Hastings   | 188 | 0     | 450.99433 | 329.7703           |
| 1037 | 1043 Hastings   | 55  | 0     | 151.75938 | 103.889            |
| 1038 | 1044 Hastings   | 30  | 0     | 77.142873 | 55.714290000000005 |
| 1039 | 1045 Hastings   | 12  | 0     | 28.363627 | 23.99999           |
| 1040 | 1046 Hastings   | 121 | 0     | 345.5681  | 229.6951           |
| 1041 | 1047 Hastings   | 35  | 0     | 87.00008  | 64.00007           |
| 1042 | 1048 Hastings   | 18  | 0     | 55.058832 | 39.17647           |
| 1043 | 1049 Hastings   | 27  | 0     | 62.307743 | 51.92312           |
| 1044 | 1050 Hastings   | 33  | 0     | 83.47055  | 64.05878           |
| 1045 | 1051 Hastings   | 72  | 0     | 204.845   | 149.0703           |
| 1046 | 1052 Hastings   | 112 | 0     | 302.8149  | 228.1482           |
| 1047 | 1053 Hastings   | 41  | 0     | 91.761903 | 77.11904           |
| 1048 | 1054 Hastings   | 98  | 0     | 290.96900 | 207.1134           |
| 1049 | 1055 Hastings   | 80  | 0     | 182       | 156                |
| 1050 | 1056 Hastings   | 109 | 0     | 257.0757  | 212.85860952000004 |
| 1051 | 1057 Hastings   | 79  | 0     | 197.49999 | 155.9744           |
| 1052 | 1058 Hastings   | 106 | 0     | 272.1346  | 210.98069764000002 |
| 1053 | 1059 Hastings   | 41  | 0     | 112.26196 | 84.92860540000001  |
| 1054 | 1060 Hastings   | 113 | 0     | 320.67551 | 236.18             |
| 1055 | 1061 Hastings   | 65  | 0     | 190.9375  | 136.0938           |
| 1056 | 1062 Hastings   | 12  | 0     | 20.72726  | 21.81817           |
| 1057 | 1063 Hastings   | 26  | 0     | 75.920000 | 55.120000000000005 |
| 1058 | 1064 Hastings   | 24  | 0     | 67.826164 | 50.087023200000004 |
| 1059 | 1065 Hastings   | 59  | 0     | 165.8105  | 121.0518           |
| 1060 | 1066 Hastings   | 29  | 0     | 81.82143  | 61.10714           |
| 1061 | 1067 Hastings   | 91  | 0     | 228.99990 | 180.99991910000003 |



| TAZ  | Town_City      | HH  | HH_GQ | pop       | veh                 |
|------|----------------|-----|-------|-----------|---------------------|
| 1062 | 1068 West Monr | 25  | 0     | 64.42308  | 50.000012500000004  |
| 1063 | 1069 West Monr | 34  | 0     | 82.4242   | 66.96966            |
| 1064 | 1070 West Monr | 33  | 0     | 85.41172  | 65.999976900000001  |
| 1065 | 1071 West Monr | 19  | 0     | 39.055564 | 35.88889            |
| 1066 | 1072 West Monr | 60  | 0     | 131.3792  | 114.8275            |
| 1067 | 1073 West Monr | 25  | 0     | 57.692360 | 50.961557500000005  |
| 1068 | 1074 West Monr | 97  | 0     | 281.613   | 203.3872            |
| 1069 | 1075 West Monr | 130 | 0     | 327.5587  | 251.81073579999995  |
| 1070 | 1076 West Monr | 37  | 0     | 84.57151  | 69.77148            |
| 1071 | 1077 West Monr | 52  | 0     | 140.7058  | 105.0195            |
| 1072 | 1078 West Monr | 76  | 0     | 178.7027  | 147.8919            |
| 1073 | 1079 West Monr | 108 | 0     | 271.514   | 209.944             |
| 1074 | 1080 West Monr | 50  | 0     | 128.57142 | 97.95921            |
| 1075 | 1081 West Monr | 81  | 0     | 188.9999  | 157.99991219999998  |
| 1076 | 1082 West Monr | 67  | 0     | 174.6061  | 136.0304            |
| 1077 | 1083 West Monr | 70  | 0     | 190.441   | 139.999902000000002 |
| 1078 | 1084 West Monr | 60  | 0     | 151.52533 | 119.999952000000001 |
| 1079 | 1085 Hastings  | 37  | 0     | 95.99994  | 73.99995            |
| 1080 | 1086 West Monr | 49  | 0     | 119.43752 | 94.937524500000001  |
| 1081 | 1087 West Monr | 105 | 0     | 242.62150 | 200.8253            |
| 1082 | 1088 West Monr | 83  | 0     | 195.716   | 160.8765            |
| 1083 | 1089 West Monr | 31  | 0     | 74.39994  | 60.966618100000005  |
| 1084 | 1090 Schroeppe | 6   | 0     | 18.99999  | 13                  |
| 1085 | 1091 Schroeppe | 26  | 0     | 67.40735  | 51.99996            |
| 1086 | 1092 Schroeppe | 17  | 0     | 40.99998  | 31.999984000000005  |
| 1087 | 1093 Schroeppe | 19  | 0     | 54.76472  | 40.2353             |
| 1088 | 1094 Schroeppe | 7   | 0     | 18.99998  | 14.999984999999999  |
| 1089 | 1095 Schroeppe | 73  | 0     | 187.1268  | 139.831             |
| 1090 | 1096 West Monr | 17  | 0     | 37.1875   | 30.8125             |
| 1091 | 1097 West Monr | 36  | 0     | 97.999970 | 70.99999199999999   |
| 1092 | 1098 Hastings  | 17  | 0     | 47.222239 | 34.944455400000001  |
| 1093 | 1099 Hastings  | 95  | 0     | 263.77661 | 198.08516499999996  |
| 1094 | 1100 Sullivan  | 24  | 0     | 54.000002 | 50.00001            |
| 1095 | 1101 Sullivan  | 21  | 0     | 61.894719 | 44.210510400000004  |
| 1109 | 8001 Geddes    | 0   | 0     | 0         | 0                   |
| 1110 | 8002 Syracuse  | 0   | 0     | 0         | 0                   |
| 1111 | 8003 Onondaga  | 0   | 733   | 733       | 0                   |
| 1112 | 8004 Onondaga  | 0   | 0     | 0         | 0                   |
| 1113 | 8005 Syracuse  | 0   | 7     | 7         | 0                   |
| 1114 | 8006 Syracuse  | 0   | 2542  | 2542      | 0                   |
| 1115 | 8007 Syracuse  | 0   | 0     | 0         | 0                   |
| 1116 | 8008 Syracuse  | 0   | 0     | 0         | 0                   |
| 1117 | 8009 Syracuse  | 0   | 0     | 0         | 0                   |



| TAZ  | Town_City HH  | HH_GQ | pop  | veh  |   |
|------|---------------|-------|------|------|---|
| 1118 | 8010 Dewitt   | 5     | 1282 | 1287 | 5 |
| 1119 | 8011 Syracuse | 0     | 29   | 29   | 0 |
| 1120 | 8012 Syracuse | 0     | 2879 | 2879 | 0 |
| 1121 | 8013 Syracuse | 0     | 0    | 0    | 0 |
| 1122 | 8014 Syracuse | 0     | 0    | 0    | 0 |
| 1123 | 8015 Syracuse | 0     | 0    | 0    | 0 |
| 1124 | 8016 Dewitt   | 0     | 0    | 0    | 0 |



| TAZ | Town_City     | HH  | HH_GQ | pop       | veh                |
|-----|---------------|-----|-------|-----------|--------------------|
| 0   | 1 Tully       | 230 | 0     | 557.5116  | 446.22110710000004 |
| 1   | 2 Tully       | 336 | 0     | 766.16530 | 628.1272334399999  |
| 2   | 3 Tully       | 143 | 0     | 389.21817 | 286                |
| 3   | 4 Spafford    | 296 | 0     | 725.03314 | 582.0222           |
| 4   | 5 Tully       | 306 | 2     | 703.9386  | 565.4791           |
| 5   | 6 Fabius      | 131 | 0     | 322.784   | 259.904            |
| 6   | 7 Fabius      | 163 | 0     | 414.24880 | 332.22959756999995 |
| 7   | 8 Tully       | 125 | 0     | 346.8467  | 245.49538750000002 |
| 8   | 9 Fabius      | 204 | 0     | 516.2451  | 425.6941           |
| 9   | 10 Fabius     | 261 | 0     | 654.6046  | 534.6290539800001  |
| 10  | 11 Otisco     | 119 | 0     | 291.8089  | 238.00010709999998 |
| 11  | 12 Otisco     | 387 | 0     | 917.29456 | 752.0349           |
| 12  | 13 Otisco     | 154 | 0     | 397.9192  | 318.3353           |
| 13  | 14 Otisco     | 179 | 0     | 474.9608  | 376.30722858000007 |
| 14  | 15 Otisco     | 160 | 0     | 407.08834 | 319.9998           |
| 15  | 16 Spafford   | 229 | 0     | 529.4315  | 442.24324050999996 |
| 16  | 17 Spafford   | 207 | 0     | 486.67015 | 401.8883           |
| 17  | 18 Lafayette  | 102 | 0     | 230.3596  | 184.5169           |
| 18  | 19 Lafayette  | 357 | 0     | 860.46124 | 668.2305650999999  |
| 19  | 20 Lafayette  | 160 | 5     | 429.3032  | 307.8477           |
| 20  | 21 Lafayette  | 203 | 0     | 497.24749 | 380.3687           |
| 21  | 22 Pompey     | 238 | 0     | 630.85527 | 509.25709659999995 |
| 22  | 23 Pompey     | 249 | 0     | 624.0236  | 496.98308399999996 |
| 23  | 24 Pompey     | 130 | 0     | 333.70057 | 272.28336199999995 |
| 24  | 25 Skaneatele | 404 | 0     | 964.8719  | 842.3826219999999  |
| 25  | 26 Skaneatele | 171 | 4     | 387.7558  | 348.9593           |
| 26  | 27 Lafayette  | 131 | 0     | 295.025   | 236.68048506000002 |
| 27  | 28 Lafayette  | 59  | 0     | 161.982   | 115.85467739999999 |
| 28  | 29 Lafayette  | 254 | 0     | 545.59200 | 442.976            |
| 29  | 30 Pompey     | 129 | 0     | 308.107   | 261.1981           |
| 30  | 31 Pompey     | 92  | 5     | 235.4843  | 190.779            |
| 31  | 32 Pompey     | 86  | 0     | 215.53077 | 178.3703           |
| 32  | 33 Pompey     | 162 | 0     | 423.36057 | 338.04041040000004 |
| 33  | 34 Pompey     | 65  | 0     | 154.6553  | 128.87936099999996 |
| 34  | 35 Pompey     | 55  | 0     | 132.2115  | 109.99999449999999 |
| 35  | 36 Marcellus  | 110 | 0     | 272.3303  | 211.4565           |
| 36  | 37 Marcellus  | 25  | 0     | 46.73914  | 44.56523           |
| 37  | 38 Marcellus  | 86  | 0     | 209.1605  | 170.9383           |
| 38  | 39 Lafayette  | 266 | 0     | 565.5112  | 460.7869           |
| 39  | 40 Skaneatele | 311 | 3     | 675.43143 | 615.6951           |
| 40  | 41 Skaneatele | 17  | 0     | 37.1875   | 39.3125            |
| 41  | 42 Skaneatele | 210 | 0     | 512.4     | 441                |
| 42  | 43 Onondaga   | 123 | 0     | 298.27476 | 242.9249           |



| TAZ | Town_City     | HH  | HH_GQ | pop       | veh                |
|-----|---------------|-----|-------|-----------|--------------------|
| 43  | 44 Onondaga   | 219 | 0     | 572.4563  | 452.2606           |
| 44  | 45 Lafayette  | 87  | 0     | 213.83136 | 165.61449629999998 |
| 45  | 46 Lafayette  | 84  | 0     | 214.42095 | 163.5789           |
| 46  | 47 Pompey     | 84  | 0     | 208.40494 | 174.37968239999998 |
| 47  | 48 Pompey     | 285 | 7     | 739.4188  | 593.4941           |
| 48  | 49 Onondaga   | 75  | 4     | 197.83104 | 151.94798250000002 |
| 49  | 50 Onondaga   | 95  | 0     | 215.8151  | 184.8369           |
| 50  | 51 Onondaga   | 225 | 0     | 548.0004  | 448.0002832499999  |
| 51  | 52 Onondaga   | 9   | 0     | 20.571407 | 19.2857            |
| 52  | 53 Marcellus  | 122 | 0     | 311.5359  | 245.08940753999997 |
| 53  | 54 Marcellus  | 204 | 0     | 515.6048  | 403.51679400000006 |
| 54  | 55 Marcellus  | 93  | 0     | 223.6428  | 179.35706580000004 |
| 55  | 56 Onondaga   | 306 | 0     | 436.00052 | 436.0008           |
| 56  | 57 Skaneatele | 239 | 0     | 576.1786  | 439.32359555999994 |
| 57  | 58 Skaneatele | 183 | 0     | 434.8823  | 331.045            |
| 58  | 59 Skaneatele | 490 | 0     | 946.20710 | 759.2889           |
| 59  | 60 Onondaga   | 191 | 0     | 447.68757 | 306.20616333000004 |
| 60  | 61 Lafayette  | 293 | 0     | 671.10390 | 527.6433           |
| 61  | 62 Marcellus  | 122 | 0     | 302.782   | 216.2728           |
| 62  | 63 Onondaga   | 364 | 0     | 907.47931 | 731.0248945999999  |
| 63  | 64 Skaneatele | 149 | 0     | 378.99970 | 284.99982747999996 |
| 64  | 65 Skaneatele | 357 | 0     | 871.66629 | 663.3221399700001  |
| 65  | 66 Skaneatele | 42  | 0     | 116.23253 | 81.06978           |
| 66  | 67 Onondaga   | 197 | 0     | 490.0735  | 304.719            |
| 67  | 68 Pompey     | 184 | 0     | 510.8416  | 387.3681           |
| 68  | 69 Pompey     | 287 | 6     | 739.98774 | 600.8683660000002  |
| 69  | 70 Pompey     | 320 | 0     | 965.28037 | 705.4786           |
| 70  | 71 Lafayette  | 159 | 0     | 395.5608  | 303.78035015999995 |
| 71  | 72 Pompey     | 127 | 0     | 306.9998  | 256.9999           |
| 72  | 73 Pompey     | 229 | 0     | 701.01970 | 498.8924           |
| 73  | 74 Marcellus  | 424 | 0     | 842.8796  | 687.2080911999999  |
| 74  | 75 Onondaga   | 12  | 0     | 20.727263 | 16.36363           |
| 75  | 76 Onondaga   | 251 | 0     | 619.7165  | 411.52290347999997 |
| 76  | 77 Onondaga   | 215 | 0     | 499.28866 | 420.8291           |
| 77  | 78 Marcellus  | 137 | 0     | 392.31834 | 277.7365           |
| 78  | 79 Marcellus  | 17  | 0     | 40.375    | 34                 |
| 79  | 80 Marcellus  | 15  | 0     | 32.8125   | 24.375             |
| 80  | 81 Onondaga   | 415 | 0     | 932.77172 | 650.8848           |
| 81  | 82 Onondaga   | 297 | 0     | 783.4838  | 555.6775           |
| 82  | 83 Skaneatele | 510 | 0     | 1227.51   | 930.1821354000001  |
| 83  | 84 Manlius    | 16  | 0     | 47.999991 | 30.933318399999997 |
| 84  | 85 Manlius    | 150 | 0     | 439.5831  | 298.9582           |
| 85  | 86 Manlius    | 349 | 0     | 775.8923  | 612.0142           |



| TAZ | Town_City     | HH  | HH_GQ | pop       | veh                |
|-----|---------------|-----|-------|-----------|--------------------|
| 86  | 87 Manlius    | 220 | 0     | 506.5116  | 376.55809839999995 |
| 87  | 88 Marcellus  | 201 | 0     | 492.5499  | 352.24779659999996 |
| 88  | 89 Marcellus  | 207 | 0     | 415.0045  | 333.6113           |
| 89  | 90 Dewitt     | 433 | 0     | 1160.681  | 808.2668           |
| 90  | 91 Dewitt     | 63  | 0     | 185.22000 | 124.74000000000001 |
| 91  | 92 Marcellus  | 155 | 0     | 384.2254  | 272.8875           |
| 92  | 93 Marcellus  | 181 | 0     | 472.22410 | 329.51263217999997 |
| 93  | 94 Marcellus  | 149 | 0     | 375.3008  | 265.5113           |
| 94  | 95 Onondaga   | 717 | 4     | 1787.6683 | 1183.2255359399999 |
| 95  | 96 Syracuse   | 755 | 0     | 1645.641  | 1143.97            |
| 96  | 97 Manlius    | 75  | 0     | 147.61899 | 119.04755999999999 |
| 97  | 98 Manlius    | 623 | 0     | 1382.73   | 1038.332           |
| 98  | 99 Syracuse   | 760 | 0     | 1271.98   | 785.8985           |
| 99  | 100 Syracuse  | 310 | 9     | 640.7351  | 349.1169           |
| 100 | 101 Onondaga  | 456 | 7     | 1261.7383 | 862.7556           |
| 101 | 102 Syracuse  | 325 | 25    | 767.59243 | 504.6294           |
| 102 | 103 Marcellus | 290 | 0     | 732.1898  | 522.4792           |
| 103 | 104 Marcellus | 179 | 0     | 465.6416  | 327.7634           |
| 104 | 105 Manlius   | 716 | 1     | 1603.43   | 1266.615           |
| 105 | 106 Dewitt    | 270 | 6     | 612.3756  | 444.3753           |
| 106 | 107 Syracuse  | 33  | 0     | 58.999957 | 33.999969300000004 |
| 107 | 108 Syracuse  | 40  | 0     | 96        | 45                 |
| 108 | 109 Syracuse  | 289 | 0     | 638.7896  | 340.82069114999996 |
| 109 | 110 Syracuse  | 49  | 0     | 103.00000 | 55.99998319999999  |
| 110 | 111 Onondaga  | 310 | 1     | 887.2659  | 596.8466           |
| 111 | 112 Onondaga  | 205 | 0     | 579.0349  | 398.0115           |
| 112 | 113 Onondaga  | 13  | 0     | 37.81816  | 23.63635           |
| 113 | 114 Dewitt    | 44  | 0     | 104.8236  | 93.17653           |
| 114 | 115 Manlius   | 791 | 0     | 2182.93   | 1609.3140209999997 |
| 115 | 116 Onondaga  | 645 | 10    | 1789.309  | 1292.34            |
| 116 | 117 Onondaga  | 656 | 0     | 1817.795  | 1256.822           |
| 117 | 118 Syracuse  | 689 | 4     | 847.4313  | 546.4484           |
| 118 | 119 Syracuse  | 687 | 0     | 1392.514  | 548.6256           |
| 119 | 120 Manlius   | 329 | 0     | 831.3924  | 637.2526           |
| 120 | 121 Syracuse  | 298 | 0     | 737.455   | 286.6834           |
| 121 | 122 Syracuse  | 126 | 0     | 272.83467 | 148.81893515999997 |
| 122 | 123 Syracuse  | 317 | 0     | 700.4194  | 373.35564501999994 |
| 123 | 124 Onondaga  | 79  | 0     | 174.41549 | 132.3506           |
| 124 | 125 Manlius   | 387 | 0     | 825.23281 | 669.9596088599999  |
| 125 | 126 Manlius   | 154 | 0     | 305.4334  | 263.0834           |
| 126 | 127 Manlius   | 370 | 0     | 684.10116 | 528.3817           |
| 127 | 128 Syracuse  | 262 | 7     | 602.0743  | 241.09559639999998 |
| 128 | 129 Dewitt    | 2   | 0     | 3         | 3                  |



| TAZ | Town_City    | HH  | HH_GQ | pop       | veh                |
|-----|--------------|-----|-------|-----------|--------------------|
| 129 | 130 Syracuse | 116 | 0     | 288.51267 | 140.7862           |
| 130 | 131 Syracuse | 86  | 0     | 207.58641 | 105.7702           |
| 131 | 132 Syracuse | 89  | 0     | 213.8045  | 107.4138           |
| 132 | 133 Onondaga | 249 | 14    | 507.38868 | 376.95811448999996 |
| 133 | 134 Manlius  | 266 | 0     | 520.9582  | 402.5131           |
| 134 | 135 Manlius  | 185 | 0     | 446.4128  | 326.76618449999995 |
| 135 | 136 Manlius  | 205 | 0     | 436.01523 | 327.79192090000004 |
| 136 | 137 Manlius  | 281 | 0     | 796.16700 | 571.9345948299999  |
| 137 | 138 Onondaga | 394 | 0     | 1032.444  | 773.5596635999999  |
| 138 | 139 Onondaga | 122 | 0     | 292.1844  | 234.77277155999994 |
| 139 | 140 Onondaga | 0   | 0     | 0         | 0                  |
| 140 | 141 Onondaga | 81  | 0     | 134.3164  | 114.8354           |
| 141 | 142 Onondaga | 468 | 6     | 778.14838 | 655.4043849600001  |
| 142 | 143 Syracuse | 94  | 1     | 250.34709 | 137.5366           |
| 143 | 144 Syracuse | 200 | 14    | 475.8835  | 269.0582           |
| 144 | 145 Syracuse | 348 | 0     | 907.4924  | 422.98376880000006 |
| 145 | 146 Syracuse | 24  | 0     | 45.913051 | 23.999992800000005 |
| 146 | 147 Syracuse | 15  | 0     | 38.4375   | 15.9375            |
| 147 | 148 Syracuse | 833 | 0     | 1440.0844 | 879.775            |
| 148 | 149 Syracuse | 280 | 0     | 668.72859 | 389.69084000000004 |
| 149 | 150 Syracuse | 470 | 5     | 1264.714  | 402.0368           |
| 150 | 151 Syracuse | 190 | 6     | 445.4957  | 256.2125           |
| 151 | 152 Onondaga | 8   | 0     | 25.333384 | 14.666696000000002 |
| 152 | 153 Onondaga | 14  | 0     | 32.00001  | 25.00001           |
| 153 | 154 Manlius  | 83  | 0     | 148.5803  | 135.25934809999998 |
| 154 | 155 Syracuse | 294 | 4     | 596.0828  | 477.7494061199999  |
| 155 | 156 Dewitt   | 455 | 0     | 1041.031  | 671.6659039999998  |
| 156 | 157 Syracuse | 157 | 0     | 424.29758 | 190.7848           |
| 157 | 158 Syracuse | 270 | 4     | 714.6257  | 224.06261039999998 |
| 158 | 159 Dewitt   | 241 | 0     | 603.01339 | 499.4345           |
| 159 | 160 Dewitt   | 318 | 0     | 793.98062 | 668.6152           |
| 160 | 161 Dewitt   | 241 | 0     | 541.1928  | 384.7544           |
| 161 | 162 Dewitt   | 59  | 0     | 139.9998  | 95.99989710000001  |
| 162 | 163 Onondaga | 465 | 0     | 918.439   | 652.5412           |
| 163 | 164 Onondaga | 373 | 0     | 999.59744 | 628.7109183800001  |
| 164 | 165 Onondaga | 113 | 0     | 283.0705  | 181.4847           |
| 165 | 166 Manlius  | 105 | 0     | 236.5048  | 181.45628340000002 |
| 166 | 167 Syracuse | 126 | 0     | 322.00016 | 141.00001271999997 |
| 167 | 168 Syracuse | 19  | 0     | 44.70592  | 21.2353            |
| 168 | 169 Dewitt   | 32  | 0     | 76        | 51                 |
| 169 | 170 Syracuse | 167 | 0     | 435.3257  | 197.02237490000002 |
| 170 | 171 Syracuse | 697 | 0     | 1573.6025 | 790.9640964299999  |
| 171 | 172 Camillus | 223 | 0     | 605.6092  | 438.0762           |



| TAZ | Town_City    | HH  | HH_GQ | pop       | veh                |
|-----|--------------|-----|-------|-----------|--------------------|
| 172 | 173 Syracuse | 240 | 0     | 573.4943  | 221.6868           |
| 173 | 174 Syracuse | 34  | 0     | 97.277753 | 33.055544600000005 |
| 174 | 175 Manlius  | 53  | 0     | 150.32723 | 105.03637520000001 |
| 175 | 176 Manlius  | 176 | 0     | 466.04799 | 347.77600000000007 |
| 176 | 177 Syracuse | 264 | 9     | 600.824   | 389.7141           |
| 177 | 178 Manlius  | 526 | 0     | 1221.6116 | 892.4830150199999  |
| 178 | 179 Dewitt   | 339 | 4     | 843.00019 | 716.0003           |
| 179 | 180 Syracuse | 143 | 0     | 290.9653  | 156.9028           |
| 180 | 181 Syracuse | 200 | 0     | 325.37306 | 199.0049           |
| 181 | 182 Syracuse | 76  | 0     | 205.29867 | 73.03896           |
| 182 | 183 Syracuse | 33  | 0     | 88.32355  | 32.02942           |
| 183 | 184 Syracuse | 61  | 1     | 174.00011 | 61                 |
| 184 | 185 Dewitt   | 268 | 9     | 601.3188  | 409.7679264000001  |
| 185 | 186 Syracuse | 24  | 0     | 53.00003  | 42.00001439999999  |
| 186 | 187 Manlius  | 648 | 5     | 1177.381  | 926.1413445599999  |
| 187 | 188 Manlius  | 112 | 0     | 287.0002  | 218.00011295999997 |
| 188 | 189 Syracuse | 217 | 0     | 559.42220 | 383.2339           |
| 189 | 190 Syracuse | 101 | 0     | 271.31363 | 116.8431           |
| 190 | 191 Onondaga | 377 | 0     | 890.81501 | 597.9305           |
| 191 | 192 Syracuse | 377 | 0     | 965.8758  | 674.4218221000001  |
| 192 | 193 Syracuse | 142 | 0     | 343.99990 | 248.99991100000003 |
| 193 | 194 Elbridge | 139 | 5     | 333.00040 | 261.0003           |
| 194 | 195 Elbridge | 224 | 0     | 548.6972  | 419.2293750399999  |
| 195 | 196 Syracuse | 193 | 0     | 367.09816 | 303.42791447999997 |
| 196 | 197 Onondaga | 1   | 0     | 2         | 2                  |
| 197 | 198 Onondaga | 43  | 0     | 93.478323 | 65.43481           |
| 198 | 199 Syracuse | 95  | 0     | 253.33326 | 112.8125           |
| 199 | 200 Syracuse | 166 | 0     | 453.00035 | 199.00015259999998 |
| 200 | 201 Syracuse | 207 | 0     | 536.667   | 249.1669           |
| 201 | 202 Manlius  | 452 | 0     | 884.87281 | 684.5431745999999  |
| 202 | 203 Syracuse | 144 | 0     | 326.731   | 161.87585760000002 |
| 203 | 204 Syracuse | 264 | 5     | 677.4188  | 251.12213279999997 |
| 204 | 205 Syracuse | 12  | 0     | 30.545443 | 9.818180400000001  |
| 205 | 206 Syracuse | 99  | 0     | 262.9999  | 92.99997           |
| 206 | 207 Syracuse | 91  | 0     | 225.52182 | 85.06521660000001  |
| 207 | 208 Dewitt   | 582 | 4     | 1407.824  | 964.3139375999999  |
| 208 | 209 Onondaga | 326 | 0     | 597.32950 | 427.24244590000006 |
| 209 | 210 Onondaga | 77  | 5     | 182.7654  | 116.9259           |
| 210 | 211 Syracuse | 260 | 9     | 553.94451 | 413.5055           |
| 211 | 212 Syracuse | 481 | 5     | 1160.7771 | 831.1758884000001  |
| 212 | 213 Camillus | 286 | 0     | 713.0766  | 556.6101           |
| 213 | 214 Camillus | 456 | 0     | 1238.418  | 946.4464132800001  |
| 214 | 215 Camillus | 43  | 0     | 59.780461 | 57.68290470000001  |



| TAZ | Town_City    | HH   | HH_GQ | pop       | veh                |
|-----|--------------|------|-------|-----------|--------------------|
| 215 | 216 Onondaga | 130  | 1     | 288.00000 | 188.00002780000003 |
| 216 | 217 Syracuse | 257  | 4     | 538.5992  | 431.60315290000005 |
| 217 | 218 Syracuse | 172  | 0     | 342.0111  | 271.4217           |
| 218 | 219 Dewitt   | 124  | 0     | 337.00009 | 225                |
| 219 | 220 Dewitt   | 277  | 5     | 600.2553  | 419.42899570000003 |
| 220 | 221 Syracuse | 161  | 0     | 398.71195 | 137.3236           |
| 221 | 222 Syracuse | 157  | 0     | 440.19669 | 142.095            |
| 222 | 223 Syracuse | 119  | 21    | 304.574   | 75.1134            |
| 223 | 224 Syracuse | 57   | 0     | 142.0001  | 36.00002           |
| 224 | 225 Syracuse | 74   | 0     | 195.9999  | 47.99997           |
| 225 | 226 Manlius  | 466  | 6     | 1187.784  | 888.5591864200001  |
| 226 | 227 Syracuse | 65   | 44    | 231.90912 | 47.27272           |
| 227 | 228 Manlius  | 182  | 0     | 404.6825  | 329.74128460000003 |
| 228 | 229 Onondaga | 73   | 0     | 147.01388 | 106.4583           |
| 229 | 230 Onondaga | 131  | 0     | 256.96159 | 185.4154           |
| 230 | 231 Syracuse | 311  | 0     | 807.0507  | 466.98469038999997 |
| 231 | 232 Syracuse | 77   | 0     | 184.99987 | 62.99996           |
| 232 | 233 Syracuse | 89   | 58    | 249.31970 | 70.2313            |
| 233 | 234 Syracuse | 383  | 0     | 966.66794 | 569.4072872999999  |
| 234 | 235 Syracuse | 35   | 0     | 70        | 18.000013499999998 |
| 235 | 236 Syracuse | 50   | 0     | 137.7552  | 32.65307           |
| 236 | 237 Dewitt   | 111  | 0     | 276.509   | 231.9107           |
| 237 | 238 Dewitt   | 156  | 0     | 355.55866 | 321.1171           |
| 238 | 239 Syracuse | 532  | 0     | 1449.8    | 1056.892           |
| 239 | 240 Geddes   | 15   | 7     | 31.54547  | 17.72728           |
| 240 | 241 Manlius  | 321  | 0     | 690.6965  | 567.4643617500001  |
| 241 | 242 Syracuse | 60   | 0     | 116.0656  | 30.49182           |
| 242 | 243 Syracuse | 38   | 0     | 104.00002 | 19.99999           |
| 243 | 244 Manlius  | 524  | 0     | 1215.282  | 946.0805           |
| 244 | 245 Syracuse | 159  | 0     | 400.3056  | 114.10571399999998 |
| 245 | 246 Syracuse | 158  | 0     | 369.9061  | 109.67061239999998 |
| 246 | 247 Syracuse | 0    | 0     | 0         | 0                  |
| 247 | 248 Syracuse | 83   | 0     | 291.48828 | 72.13097           |
| 248 | 249 Syracuse | 278  | 16    | 618.4853  | 247.9213           |
| 249 | 250 Syracuse | 205  | 0     | 519.9996  | 200.9998           |
| 250 | 251 Syracuse | 148  | 0     | 387.38289 | 127.141            |
| 251 | 252 Syracuse | 84   | 0     | 245.0823  | 76.09405           |
| 252 | 253 Syracuse | 139  | 6     | 320.17797 | 238.9657           |
| 253 | 254 Dewitt   | 125  | 9     | 286.4624  | 188.44716250000002 |
| 254 | 255 Dewitt   | 271  | 4     | 693.90792 | 447.6956           |
| 255 | 256 Camillus | 1294 | 4     | 2784.8074 | 2173.562           |
| 256 | 257 Camillus | 794  | 0     | 1942.4292 | 1400.8850469000001 |
| 257 | 258 Geddes   | 456  | 0     | 997.5629  | 741.8807092799999  |



| TAZ | Town_City    | HH  | HH_GQ | pop       | veh                |
|-----|--------------|-----|-------|-----------|--------------------|
| 258 | 259 Geddes   | 1   | 0     | 2         | 2                  |
| 259 | 260 Syracuse | 65  | 5     | 111.7856  | 88.21422350000002  |
| 260 | 261 Syracuse | 492 | 0     | 1091.345  | 669.9148           |
| 261 | 262 Syracuse | 107 | 0     | 307.87698 | 82.77361           |
| 262 | 263 Syracuse | 121 | 10    | 342.9778  | 93.70680440000001  |
| 263 | 264 Camillus | 160 | 0     | 314.9684  | 200.25139679999998 |
| 264 | 265 Camillus | 263 | 0     | 571.1717  | 356.3551           |
| 265 | 266 Camillus | 166 | 7     | 327.4855  | 206.30050889999998 |
| 266 | 267 Camillus | 577 | 4     | 1304.963  | 950.8174           |
| 267 | 268 Geddes   | 503 | 0     | 1180.0004 | 841.0003617299999  |
| 268 | 269 Syracuse | 1   | 0     | 1         | 0                  |
| 269 | 270 Syracuse | 0   | 0     | 0         | 0                  |
| 270 | 271 Syracuse | 401 | 2     | 1031.775  | 394.30062933999994 |
| 271 | 272 Syracuse | 188 | 36    | 412.79    | 109.7983           |
| 272 | 273 Syracuse | 4   | 51    | 64        | 2.071429           |
| 273 | 274 Syracuse | 281 | 49    | 570.1573  | 83.31981579999999  |
| 274 | 275 Camillus | 62  | 0     | 133.8412  | 102.3492           |
| 275 | 276 Syracuse | 264 | 0     | 600.72376 | 458.2637           |
| 276 | 277 Syracuse | 178 | 3     | 350.2458  | 284.0218           |
| 277 | 278 Syracuse | 85  | 0     | 173.95329 | 135.40681899999998 |
| 278 | 279 Syracuse | 0   | 691   | 691       | 0                  |
| 279 | 280 Syracuse | 1   | 690   | 692.7246  | 1.651198           |
| 280 | 281 Syracuse | 319 | 20    | 741.9468  | 218.26290705999997 |
| 281 | 282 Syracuse | 0   | 0     | 0         | 0                  |
| 282 | 283 Syracuse | 275 | 35    | 793.1079  | 559.29049000000001 |
| 283 | 284 Syracuse | 141 | 697   | 1010.775  | 142.9859           |
| 284 | 285 Syracuse | 256 | 6     | 678.2369  | 387.79246592000004 |
| 285 | 286 Syracuse | 192 | 0     | 435.99985 | 266.9998           |
| 286 | 287 Elbridge | 262 | 0     | 659.66    | 498.1106           |
| 287 | 288 Elbridge | 221 | 4     | 531.6128  | 411.1397           |
| 288 | 289 Elbridge | 224 | 0     | 550.2836  | 422.4296           |
| 289 | 290 Syracuse | 147 | 44    | 458.83244 | 114.67531739999998 |
| 290 | 291 Geddes   | 420 | 8     | 892.15905 | 605.4674009999999  |
| 291 | 292 Syracuse | 12  | 0     | 25.000010 | 2.9999988000000006 |
| 292 | 293 Syracuse | 0   | 0     | 0         | 0                  |
| 293 | 294 Syracuse | 29  | 0     | 61.99996  | 46.999975199999994 |
| 294 | 295 Syracuse | 271 | 0     | 550       | 443                |
| 295 | 296 Syracuse | 336 | 0     | 810.58736 | 487.5489           |
| 296 | 297 Geddes   | 448 | 0     | 999.15174 | 685.6527148800002  |
| 297 | 298 Syracuse | 0   | 453   | 453       | 0                  |
| 298 | 299 Syracuse | 0   | 62    | 62        | 0                  |
| 299 | 300 Dewitt   | 310 | 0     | 709.71106 | 461.5115979000001  |
| 300 | 301 Syracuse | 614 | 1     | 970.2545  | 167.2276           |



| TAZ | Town_City    | HH  | HH_GQ | pop       | veh                |
|-----|--------------|-----|-------|-----------|--------------------|
| 301 | 302 Syracuse | 70  | 0     | 229.9999  | 38.99997499999999  |
| 302 | 303 Syracuse | 0   | 0     | 0         | 0                  |
| 303 | 304 Syracuse | 41  | 0     | 69.99992  | 11.999970200000002 |
| 304 | 305 Syracuse | 47  | 0     | 101.1522  | 18.39132           |
| 305 | 306 Syracuse | 21  | 0     | 56.31824  | 10.50001           |
| 306 | 307 Syracuse | 18  | 36    | 59.99999  | 5.999990400000001  |
| 307 | 308 Syracuse | 0   | 0     | 0         | 0                  |
| 308 | 309 Syracuse | 0   | 73    | 73        | 0                  |
| 309 | 310 Syracuse | 1   | 0     | 1         | 0                  |
| 310 | 311 Syracuse | 412 | 6     | 936.66976 | 708.5224152000001  |
| 311 | 312 Syracuse | 0   | 0     | 0         | 0                  |
| 312 | 313 Syracuse | 0   | 0     | 0         | 0                  |
| 313 | 314 Syracuse | 0   | 105   | 105       | 0                  |
| 314 | 315 Syracuse | 0   | 0     | 0         | 0                  |
| 315 | 316 Syracuse | 0   | 0     | 0         | 0                  |
| 316 | 317 Syracuse | 30  | 224   | 284       | 39.382701000000004 |
| 317 | 318 Syracuse | 6   | 267   | 279.9961  | 7.969105           |
| 318 | 319 Syracuse | 0   | 0     | 0         | 0                  |
| 319 | 320 Syracuse | 188 | 0     | 493.7376  | 92.10107           |
| 320 | 321 Syracuse | 72  | 0     | 181       | 35.000006400000004 |
| 321 | 322 Syracuse | 62  | 0     | 172.9999  | 31.99999           |
| 322 | 323 Syracuse | 92  | 0     | 246.3227  | 50.45164           |
| 323 | 324 Manlius  | 273 | 0     | 672.38933 | 510.61155600000006 |
| 324 | 325 Manlius  | 168 | 0     | 345.8105  | 284.49657600000006 |
| 325 | 326 Syracuse | 0   | 88    | 88        | 0                  |
| 326 | 327 Syracuse | 62  | 68    | 199.57259 | 79.51149           |
| 327 | 328 Syracuse | 0   | 491   | 491       | 0                  |
| 328 | 329 Syracuse | 0   | 225   | 225       | 0                  |
| 329 | 330 Syracuse | 122 | 0     | 296.5689  | 177.5447           |
| 330 | 331 Syracuse | 85  | 0     | 204.40484 | 124.46436100000001 |
| 331 | 332 Dewitt   | 233 | 0     | 514.9998  | 335.99996602000004 |
| 332 | 333 Dewitt   | 130 | 10    | 244.00007 | 160.6429           |
| 333 | 334 Camillus | 603 | 4     | 1217.8950 | 931.6398           |
| 334 | 335 Syracuse | 167 | 0     | 397.8529  | 161.10595210000002 |
| 335 | 336 Syracuse | 207 | 0     | 514.13028 | 199.29781979999996 |
| 336 | 337 Syracuse | 0   | 3     | 3         | 0                  |
| 337 | 338 Syracuse | 0   | 2     | 2         | 0                  |
| 338 | 339 Syracuse | 136 | 0     | 138.0298  | 99.46263           |
| 339 | 340 Syracuse | 69  | 0     | 0         | 0                  |
| 340 | 341 Syracuse | 0   | 0     | 0         | 0                  |
| 341 | 342 Syracuse | 0   | 0     | 0         | 0                  |
| 342 | 343 Syracuse | 334 | 0     | 373.39491 | 253.49756649999998 |
| 343 | 344 Syracuse | 0   | 4     | 4         | 0                  |



| TAZ | Town_City    | HH  | HH_GQ | pop       | veh                |
|-----|--------------|-----|-------|-----------|--------------------|
| 344 | 345 Syracuse | 135 | 0     | 271.9709  | 165.54755835000003 |
| 345 | 346 Syracuse | 0   | 66    | 66        | 0                  |
| 346 | 347 Syracuse | 207 | 1     | 452.81711 | 348.3172           |
| 347 | 348 Syracuse | 222 | 0     | 366.5584  | 316.6514           |
| 348 | 349 Geddes   | 211 | 0     | 504.6079  | 360.29206251999994 |
| 349 | 350 Camillus | 503 | 0     | 1202.6923 | 867.7003           |
| 350 | 351 Manlius  | 416 | 0     | 1030.669  | 783.7038           |
| 351 | 352 Manlius  | 55  | 5     | 133.01720 | 102.4138           |
| 352 | 353 Syracuse | 304 | 51    | 626.9566  | 129.8161           |
| 353 | 354 Syracuse | 77  | 0     | 194.47434 | 40.474341599999995 |
| 354 | 355 Syracuse | 42  | 0     | 0         | 0                  |
| 355 | 356 Syracuse | 0   | 0     | 0         | 0                  |
| 356 | 357 Geddes   | 383 | 0     | 934.19615 | 655.5582425599999  |
| 357 | 358 Syracuse | 143 | 9     | 358.55563 | 127.11102689999997 |
| 358 | 359 Syracuse | 141 | 0     | 284.00000 | 121.00002420000001 |
| 359 | 360 Syracuse | 60  | 0     | 106.00003 | 47.00003           |
| 360 | 361 Syracuse | 5   | 0     | 12        | 9                  |
| 361 | 362 Syracuse | 178 | 1     | 313.4887  | 227.4443           |
| 362 | 363 Syracuse | 250 | 1     | 518.30767 | 353.8461250000001  |
| 363 | 364 Syracuse | 234 | 0     | 416.6583  | 348.5316978000001  |
| 364 | 365 Syracuse | 133 | 22    | 307.60889 | 221.6666           |
| 365 | 366 Geddes   | 208 | 0     | 429.92850 | 304.5714           |
| 366 | 367 Geddes   | 186 | 0     | 444.60941 | 297.401            |
| 367 | 368 Syracuse | 59  | 0     | 116.9828  | 79.34486969999998  |
| 368 | 369 Syracuse | 483 | 0     | 993.9417  | 685.5801           |
| 369 | 370 Syracuse | 297 | 0     | 593.99967 | 414.99967409999994 |
| 370 | 371 Syracuse | 0   | 0     | 0         | 0                  |
| 371 | 372 Syracuse | 989 | 96    | 1489.5381 | 695.0051           |
| 372 | 373 Syracuse | 0   | 139   | 139       | 0                  |
| 373 | 374 Syracuse | 0   | 290   | 290       | 0                  |
| 374 | 375 Syracuse | 0   | 0     | 0         | 0                  |
| 375 | 376 Syracuse | 20  | 0     | 0         | 0                  |
| 376 | 377 Syracuse | 94  | 0     | 94        | 94                 |
| 377 | 378 Syracuse | 0   | 189   | 189       | 0                  |
| 378 | 379 Syracuse | 0   | 24    | 24        | 0                  |
| 379 | 380 Syracuse | 0   | 0     | 0         | 0                  |
| 380 | 381 Syracuse | 0   | 0     | 0         | 0                  |
| 381 | 382 Syracuse | 0   | 0     | 0         | 0                  |
| 382 | 383 Geddes   | 169 | 4     | 376.79422 | 274.3766           |
| 383 | 384 Syracuse | 108 | 0     | 280       | 54.99998           |
| 384 | 385 Syracuse | 185 | 0     | 450.64105 | 89.17956450000001  |
| 385 | 386 Dewitt   | 160 | 4     | 397.1707  | 248.78041280000002 |
| 386 | 387 Dewitt   | 112 | 0     | 243       | 158.00001056000002 |



| TAZ | Town_City    | HH   | HH_GQ | pop       | veh                |
|-----|--------------|------|-------|-----------|--------------------|
| 387 | 388 Syracuse | 153  | 0     | 272.6182  | 155.7818           |
| 388 | 389 Syracuse | 189  | 0     | 464       | 202.99996710000002 |
| 389 | 390 Syracuse | 145  | 0     | 209.00002 | 143                |
| 390 | 391 Syracuse | 191  | 10    | 382.94780 | 196.43119959999999 |
| 391 | 392 Syracuse | 39   | 0     | 73.125000 | 39                 |
| 392 | 393 Camillus | 28   | 0     | 50.81478  | 40.444412400000004 |
| 393 | 394 Camillus | 382  | 3     | 906.6341  | 661.2689           |
| 394 | 395 Syracuse | 0    | 0     | 0         | 0                  |
| 395 | 396 Syracuse | 124  | 0     | 147.84621 | 77.89744479999999  |
| 396 | 397 Syracuse | 184  | 0     | 219.81221 | 108.6712           |
| 397 | 398 Camillus | 1306 | 4     | 2799.8874 | 1975.313           |
| 398 | 399 Syracuse | 456  | 3     | 1166.689  | 484.62357599999996 |
| 399 | 400 Syracuse | 120  | 2     | 220.53659 | 93.65849279999999  |
| 400 | 401 Syracuse | 21   | 0     | 48.681851 | 20.045472300000004 |
| 401 | 402 Camillus | 636  | 4     | 1424.094  | 1064.2093172399998 |
| 402 | 403 Syracuse | 0    | 0     | 0         | 0                  |
| 403 | 404 Syracuse | 132  | 0     | 296.2668  | 220.97774687999998 |
| 404 | 405 Syracuse | 229  | 0     | 343.50000 | 183.20000000000002 |
| 405 | 406 Syracuse | 66   | 0     | 124.89236 | 81.23081339999999  |
| 406 | 407 Syracuse | 213  | 2     | 434.90292 | 278.08347060000006 |
| 407 | 408 Syracuse | 0    | 2     | 2         | 0                  |
| 408 | 409 Syracuse | 0    | 2     | 2         | 0                  |
| 409 | 410 Syracuse | 189  | 0     | 251.53667 | 133.4118           |
| 410 | 411 Syracuse | 0    | 0     | 0         | 0                  |
| 411 | 412 Syracuse | 136  | 101   | 244.88403 | 70.95655839999999  |
| 412 | 413 Syracuse | 0    | 0     | 0         | 0                  |
| 413 | 414 Syracuse | 90   | 0     | 90.000008 | 46.45163           |
| 414 | 415 Syracuse | 139  | 0     | 139.00005 | 70.49284920000001  |
| 415 | 416 Camillus | 332  | 0     | 747.24770 | 513.361            |
| 416 | 417 Syracuse | 27   | 0     | 38.999966 | 19.99998           |
| 417 | 418 Syracuse | 0    | 0     | 0         | 0                  |
| 418 | 419 Syracuse | 0    | 0     | 0         | 0                  |
| 419 | 420 Syracuse | 0    | 0     | 0         | 0                  |
| 420 | 421 Syracuse | 387  | 0     | 897.0462  | 525.9232089000001  |
| 421 | 422 Syracuse | 0    | 0     | 0         | 0                  |
| 422 | 423 Syracuse | 0    | 0     | 0         | 0                  |
| 423 | 424 Syracuse | 208  | 0     | 0         | 0                  |
| 424 | 425 Syracuse | 103  | 0     | 127.23537 | 96.94121           |
| 425 | 426 Syracuse | 0    | 0     | 0         | 0                  |
| 426 | 427 Syracuse | 4    | 0     | 7         | 4                  |
| 427 | 428 Syracuse | 28   | 0     | 71.448266 | 29.931028399999995 |
| 428 | 429 Syracuse | 191  | 0     | 473.9995  | 189.99980939999998 |
| 429 | 430 Syracuse | 136  | 0     | 277.78718 | 130.2127           |



| TAZ | Town_City    | HH  | HH_GQ | pop       | veh                |
|-----|--------------|-----|-------|-----------|--------------------|
| 430 | 431 Syracuse | 0   | 3     | 3         | 0                  |
| 431 | 432 Syracuse | 35  | 0     | 86.52779  | 35.97223           |
| 432 | 433 Syracuse | 15  | 0     | 38        | 14                 |
| 433 | 434 Syracuse | 182 | 0     | 351.0002  | 159.71432203999996 |
| 434 | 435 Syracuse | 5   | 0     | 8         | 5                  |
| 435 | 436 Syracuse | 0   | 0     | 0         | 0                  |
| 436 | 437 Syracuse | 0   | 0     | 0         | 0                  |
| 437 | 438 Syracuse | 0   | 1     | 1         | 0                  |
| 438 | 439 Syracuse | 82  | 0     | 152       | 99.00003499999998  |
| 439 | 440 Syracuse | 206 | 0     | 412.9953  | 264.7151           |
| 440 | 441 Geddes   | 110 | 0     | 159.5495  | 124.86478730000002 |
| 441 | 442 Syracuse | 428 | 61    | 998.0862  | 417.13269479999997 |
| 442 | 443 Syracuse | 433 | 3     | 1013.6622 | 423.1593           |
| 443 | 444 Camillus | 238 | 0     | 523.9996  | 390.99974227999996 |
| 444 | 445 Syracuse | 0   | 0     | 0         | 0                  |
| 445 | 446 Dewitt   | 23  | 0     | 59.14284  | 38.33332           |
| 446 | 447 Geddes   | 200 | 0     | 483.417   | 344.7235           |
| 447 | 448 Geddes   | 137 | 7     | 278.12571 | 205.97887527999998 |
| 448 | 449 Syracuse | 49  | 0     | 110.25    | 42.875             |
| 449 | 450 Manlius  | 588 | 0     | 1424.2199 | 1106.8226231999997 |
| 450 | 451 Geddes   | 834 | 5     | 1712.7612 | 1222.669           |
| 451 | 452 Manlius  | 668 | 0     | 1300.2145 | 1121.2859624000002 |
| 452 | 453 Syracuse | 2   | 0     | 2         | 1                  |
| 453 | 454 Syracuse | 125 | 0     | 168.26933 | 76.9231            |
| 454 | 455 Syracuse | 6   | 0     | 11.142845 | 5.1428519999999995 |
| 455 | 456 Syracuse | 3   | 0     | 3         | 2.000001           |
| 456 | 457 Syracuse | 28  | 0     | 37.692289 | 21.53846           |
| 457 | 458 Syracuse | 95  | 0     | 151.59581 | 108.13831949999997 |
| 458 | 459 Syracuse | 266 | 0     | 486.0717  | 325.3237           |
| 459 | 460 Syracuse | 175 | 0     | 217.16889 | 108.58445499999999 |
| 460 | 461 Syracuse | 0   | 0     | 0         | 0                  |
| 461 | 462 Syracuse | 0   | 0     | 0         | 0                  |
| 462 | 463 Syracuse | 0   | 0     | 0         | 0                  |
| 463 | 464 Syracuse | 158 | 0     | 194.1142  | 103.8285           |
| 464 | 465 Syracuse | 8   | 0     | 17.14284  | 10.285703999999999 |
| 465 | 466 Syracuse | 198 | 1     | 307.45230 | 125.3668           |
| 466 | 467 Syracuse | 0   | 0     | 0         | 0                  |
| 467 | 468 Syracuse | 154 | 0     | 178.20000 | 69.29996           |
| 468 | 469 Syracuse | 127 | 0     | 187.05436 | 66.94576146000001  |
| 469 | 470 Syracuse | 184 | 8     | 258.1252  | 94.87507360000001  |
| 470 | 471 Syracuse | 188 | 0     | 374.01049 | 125.3333           |
| 471 | 472 Syracuse | 305 | 0     | 791.4059  | 221.2747           |
| 472 | 473 Dewitt   | 311 | 152   | 767.2973  | 398.8039           |



| TAZ | Town_City    | HH  | HH_GQ | pop       | veh                |
|-----|--------------|-----|-------|-----------|--------------------|
| 473 | 474 Dewitt   | 363 | 0     | 710.0871  | 467.4242           |
| 474 | 475 Syracuse | 430 | 1     | 962.52793 | 482.7544           |
| 475 | 476 Syracuse | 41  | 0     | 79.99995  | 35.99998           |
| 476 | 477 Syracuse | 37  | 0     | 75.02773  | 32.88887           |
| 477 | 478 Syracuse | 15  | 0     | 33.00002  | 16.000009499999997 |
| 478 | 479 Syracuse | 33  | 0     | 67.03125  | 29.90625           |
| 479 | 480 Syracuse | 178 | 12    | 398.68937 | 170.98521224000004 |
| 480 | 481 Syracuse | 99  | 0     | 178.75    | 87.08332           |
| 481 | 482 Syracuse | 305 | 0     | 677.56305 | 290.52224169999994 |
| 482 | 483 Syracuse | 284 | 0     | 630.57642 | 275.3356087199999  |
| 483 | 484 Dewitt   | 0   | 0     | 0         | 0                  |
| 484 | 485 Dewitt   | 0   | 0     | 0         | 0                  |
| 485 | 486 Syracuse | 169 | 0     | 390.37989 | 246.0876           |
| 486 | 487 Elbridge | 481 | 0     | 1094.143  | 874.2569900999999  |
| 487 | 488 Elbridge | 331 | 4     | 808.4425  | 629.2073           |
| 488 | 489 Syracuse | 113 | 0     | 158.40166 | 60.53566           |
| 489 | 490 Syracuse | 328 | 0     | 691.8906  | 225.3132           |
| 490 | 491 Syracuse | 398 | 27    | 588.49785 | 232.63403276000003 |
| 491 | 492 Syracuse | 330 | 9     | 411.5804  | 174.19343700000002 |
| 492 | 493 Syracuse | 0   | 0     | 0         | 0                  |
| 493 | 494 Syracuse | 232 | 0     | 347.23182 | 311.8942622400001  |
| 494 | 495 Syracuse | 54  | 0     | 109.6875  | 72.5625            |
| 495 | 496 Syracuse | 286 | 0     | 650.4511  | 274.0833           |
| 496 | 497 Syracuse | 143 | 1     | 309.683   | 141.0277           |
| 497 | 498 Syracuse | 222 | 0     | 251.86535 | 115.47970026000002 |
| 498 | 499 Syracuse | 175 | 3     | 285.7681  | 112.71172500000003 |
| 499 | 500 Syracuse | 579 | 4     | 1138.286  | 734.1242           |
| 500 | 501 Syracuse | 0   | 0     | 0         | 0                  |
| 501 | 502 Geddes   | 629 | 0     | 1411.7783 | 976.2405255899998  |
| 502 | 503 Syracuse | 45  | 0     | 63.409067 | 25.568180999999996 |
| 503 | 504 Syracuse | 262 | 51    | 701.77285 | 208.2167           |
| 504 | 505 Geddes   | 731 | 1     | 1579.7642 | 1094.047           |
| 505 | 506 Camillus | 191 | 0     | 382.0002  | 295.37171698000003 |
| 506 | 507 Syracuse | 0   | 0     | 0         | 0                  |
| 507 | 508 Syracuse | 269 | 0     | 310.8802  | 289.9401           |
| 508 | 509 Syracuse | 74  | 0     | 155.58969 | 117.641            |
| 509 | 510 Syracuse | 338 | 102   | 528.3763  | 181.4037           |
| 510 | 511 Syracuse | 111 | 0     | 170.99985 | 69.99994           |
| 511 | 512 Syracuse | 363 | 0     | 747.8798  | 503.2277           |
| 512 | 513 Dewitt   | 14  | 0     | 28.00001  | 16.00001           |
| 513 | 514 Syracuse | 566 | 0     | 1238.4362 | 646.5732129999999  |
| 514 | 515 Syracuse | 103 | 0     | 178.99996 | 77.00003           |
| 515 | 516 Geddes   | 0   | 0     | 0         | 0                  |



| TAZ  | Town_City     | HH  | HH_GQ | pop       | veh                 |
|------|---------------|-----|-------|-----------|---------------------|
| 516  | 517 Geddes    | 474 | 0     | 1045.588  | 664.1975            |
| 517  | 518 Syracuse  | 0   | 0     | 0         | 0                   |
| 518  | 519 Dewitt    | 85  | 0     | 179.1074  | 112.3216            |
| 519  | 520 Syracuse  | 396 | 0     | 678.8568  | 504.18034524000007  |
| 520  | 521 Dewitt    | 0   | 0     | 0         | 0                   |
| 521  | 522 Syracuse  | 285 | 103   | 749.6495  | 219.49879199999995  |
| 522  | 523 Syracuse  | 333 | 0     | 917.73205 | 207.1337            |
| 523  | 524 Syracuse  | 593 | 9     | 1419.534  | 366.54681446999996  |
| 524  | 525 Syracuse  | 483 | 0     | 1054.4497 | 679.7772            |
| 1108 | 1114 Camillus | 262 | 0     | 686.75748 | 474.3786            |
| 1107 | 1113 Camillus | 160 | 0     | 414.4101  | 290.18637119999994  |
| 525  | 527 Syracuse  | 372 | 0     | 943.6552  | 311.72676695999996  |
| 526  | 528 Syracuse  | 479 | 0     | 966.9814  | 666.6084882099998   |
| 527  | 529 Syracuse  | 260 | 0     | 567.8162  | 380.53649920000004  |
| 528  | 530 Syracuse  | 0   | 0     | 0         | 0                   |
| 529  | 531 Syracuse  | 0   | 1     | 1         | 0                   |
| 530  | 532 Syracuse  | 412 | 0     | 943.73498 | 326.20602639999999  |
| 531  | 533 Manlius   | 730 | 5     | 1770.4    | 1282.6731449999997  |
| 532  | 534 Syracuse  | 208 | 0     | 0         | 0                   |
| 533  | 535 Syracuse  | 276 | 0     | 576.81992 | 392.158210080000006 |
| 534  | 536 Dewitt    | 0   | 6     | 6         | 0                   |
| 535  | 537 Syracuse  | 345 | 2     | 762.59055 | 504.07763699999999  |
| 536  | 538 Syracuse  | 282 | 0     | 667.89489 | 223.55925059999998  |
| 537  | 539 Syracuse  | 211 | 0     | 573.92022 | 181.9289            |
| 538  | 540 Syracuse  | 300 | 0     | 689.4043  | 504.63584099999999  |
| 539  | 541 Syracuse  | 104 | 0     | 243.3208  | 177.5849            |
| 540  | 542 Syracuse  | 444 | 0     | 934.5812  | 648.16117667999999  |
| 541  | 543 Dewitt    | 499 | 0     | 1063.606  | 640.1515            |
| 542  | 544 Syracuse  | 357 | 4     | 709.1245  | 492.10774598999996  |
| 543  | 545 Syracuse  | 354 | 0     | 831.7091  | 401.58061607999997  |
| 544  | 546 Syracuse  | 0   | 0     | 0         | 0                   |
| 545  | 547 Syracuse  | 371 | 0     | 701.22059 | 480.4106            |
| 546  | 548 Dewitt    | 318 | 0     | 686.9997  | 411.999814200000006 |
| 547  | 549 Dewitt    | 439 | 2     | 929.54874 | 562.8715            |
| 548  | 550 Geddes    | 108 | 0     | 218.9188  | 175.135046400000002 |
| 549  | 551 Syracuse  | 190 | 0     | 398.81165 | 142.9703            |
| 550  | 552 Syracuse  | 295 | 0     | 734.1584  | 326.5048            |
| 551  | 553 Syracuse  | 328 | 34    | 733.25283 | 473.0771            |
| 552  | 554 Syracuse  | 416 | 3     | 965.23340 | 334.4863            |
| 553  | 555 Camillus  | 444 | 8     | 967.7843  | 729.8084            |
| 554  | 556 Camillus  | 357 | 0     | 917.2743  | 722.8934            |
| 555  | 557 Camillus  | 179 | 0     | 383.7469  | 313.8632            |
| 556  | 558 Syracuse  | 411 | 0     | 926.2391  | 682.02175974000001  |



| TAZ | Town_City    | HH  | HH_GQ | pop       | veh                 |
|-----|--------------|-----|-------|-----------|---------------------|
| 557 | 559 Geddes   | 0   | 0     | 0         | 0                   |
| 558 | 560 Manlius  | 164 | 0     | 378.9727  | 300.2971            |
| 559 | 561 Syracuse | 368 | 0     | 896.0415  | 297.083478079999996 |
| 560 | 562 Manlius  | 505 | 0     | 1248.9734 | 886.7558609999999   |
| 561 | 563 Syracuse | 633 | 0     | 1429.575  | 704.6244500699999   |
| 562 | 564 Syracuse | 238 | 0     | 507.98397 | 285.0354            |
| 563 | 565 Syracuse | 310 | 0     | 540.00029 | 439.0001543000001   |
| 564 | 566 Syracuse | 269 | 0     | 571.7483  | 431.7891            |
| 565 | 567 Syracuse | 323 | 0     | 803.1615  | 359.6391            |
| 566 | 568 Elbridge | 79  | 0     | 196.46058 | 154.8816            |
| 567 | 569 Elbridge | 212 | 0     | 420.91262 | 347.84466039999995  |
| 568 | 570 Syracuse | 584 | 0     | 885.57382 | 559.1083373600001   |
| 569 | 571 Syracuse | 541 | 0     | 1112.943  | 624.8448778900001   |
| 570 | 572 Syracuse | 586 | 10    | 1155.407  | 440.68731804000004  |
| 571 | 573 Dewitt   | 303 | 9     | 710.8855  | 486.14196579000003  |
| 572 | 574 Syracuse | 409 | 14    | 735.99022 | 430.12178250000005  |
| 573 | 575 Syracuse | 380 | 7     | 870.7213  | 479.94980400000003  |
| 574 | 576 Dewitt   | 330 | 0     | 735.3149  | 520.2700239000001   |
| 575 | 577 Syracuse | 125 | 0     | 300.7815  | 175.7813            |
| 576 | 578 Syracuse | 107 | 0     | 255       | 147.99999250000002  |
| 577 | 579 Syracuse | 491 | 0     | 1043.616  | 585.3493            |
| 578 | 580 Syracuse | 0   | 0     | 0         | 0                   |
| 579 | 581 Syracuse | 0   | 2     | 2         | 0                   |
| 580 | 582 Syracuse | 119 | 0     | 275.9997  | 153.9998            |
| 581 | 583 Syracuse | 161 | 0     | 343.5976  | 196.3414            |
| 582 | 584 Syracuse | 354 | 80    | 844.5103  | 476.7636            |
| 583 | 585 Dewitt   | 1   | 0     | 1         | 1                   |
| 584 | 586 Dewitt   | 2   | 0     | 4         | 3                   |
| 585 | 587 Syracuse | 42  | 4     | 90.7392   | 57.521801399999994  |
| 586 | 588 Syracuse | 81  | 0     | 201.5121  | 116.5609            |
| 587 | 589 Syracuse | 53  | 0     | 128.4231  | 67.2693             |
| 588 | 590 Syracuse | 246 | 3     | 558.88356 | 308.9301            |
| 589 | 591 Syracuse | 256 | 0     | 511.99958 | 336.29489664000005  |
| 590 | 592 Salina   | 691 | 3     | 1404.9415 | 916.3471            |
| 591 | 593 Dewitt   | 476 | 0     | 771.62057 | 621.3048167200001   |
| 592 | 594 Dewitt   | 373 | 7     | 857.04715 | 615.4497911200001   |
| 593 | 595 Manlius  | 660 | 0     | 1380.1821 | 1052.1884340000001  |
| 594 | 596 Dewitt   | 198 | 0     | 398.0097  | 287.45144999999997  |
| 595 | 597 Syracuse | 94  | 0     | 207.78945 | 119.72628660000001  |
| 596 | 598 Syracuse | 101 | 0     | 224.22    | 123.22              |
| 597 | 599 Dewitt   | 74  | 0     | 126.71234 | 95.28768            |
| 598 | 600 Syracuse | 319 | 0     | 655.5062  | 426.9543            |
| 599 | 601 Syracuse | 231 | 6     | 530.3797  | 323.59494551999995  |



| TAZ  | Town_City     | HH  | HH_GQ | pop       | veh                |
|------|---------------|-----|-------|-----------|--------------------|
| 600  | 602 Syracuse  | 88  | 0     | 177.0002  | 114.00008399999999 |
| 601  | 603 Syracuse  | 243 | 8     | 547.57434 | 327.1888           |
| 602  | 604 Syracuse  | 289 | 10    | 644.86718 | 388.7515           |
| 603  | 605 Salina    | 89  | 0     | 183.74200 | 119.62372520000001 |
| 604  | 606 Salina    | 572 | 0     | 1265.2114 | 795.39             |
| 605  | 607 Dewitt    | 52  | 0     | 100.0754  | 75.54712           |
| 606  | 608 Salina    | 0   | 0     | 0         | 0                  |
| 607  | 609 Salina    | 4   | 0     | 4         | 4                  |
| 608  | 610 Dewitt    | 5   | 0     | 5         | 5                  |
| 609  | 611 Dewitt    | 67  | 0     | 167.5001  | 116.45243199999999 |
| 610  | 612 Camillus  | 94  | 6     | 239.0142  | 188.0001           |
| 611  | 613 Camillus  | 66  | 0     | 184.30181 | 139.47164220000002 |
| 612  | 614 Camillus  | 236 | 0     | 554.6762  | 468.99464856000003 |
| 613  | 615 Camillus  | 382 | 0     | 1059.1827 | 799.813            |
| 614  | 616 Dewitt    | 653 | 0     | 1516.001  | 1077               |
| 615  | 617 Van Buren | 19  | 0     | 48.55559  | 34.83335           |
| 616  | 618 Van Buren | 68  | 0     | 172.5374  | 134.98517479999998 |
| 617  | 619 Salina    | 59  | 0     | 115.9655  | 75.27588159999999  |
| 618  | 620 Salina    | 0   | 0     | 0         | 0                  |
| 619  | 621 Dewitt    | 1   | 0     | 4         | 2                  |
| 620  | 622 Dewitt    | 0   | 0     | 0         | 0                  |
| 621  | 623 Manlius   | 490 | 0     | 1225.4980 | 883.591            |
| 622  | 624 Manlius   | 65  | 0     | 151.6666  | 112.66658650000001 |
| 623  | 625 Manlius   | 71  | 0     | 164.3142  | 120.7              |
| 624  | 626 Manlius   | 287 | 0     | 706.1583  | 541.4537408000001  |
| 625  | 627 Salina    | 793 | 0     | 1454.3312 | 957.5846124000001  |
| 626  | 628 Salina    | 395 | 0     | 878.44787 | 551.7939781000001  |
| 1097 | 1103 Salina   | 0   | 0     | 0         | 0                  |
| 1096 | 1102 Salina   | 0   | 0     | 0         | 0                  |
| 1098 | 1104 Salina   | 290 | 0     | 661.9997  | 398.9998           |
| 627  | 630 Salina    | 0   | 0     | 0         | 0                  |
| 628  | 631 Dewitt    | 13  | 0     | 22.99999  | 15.99999           |
| 629  | 632 Dewitt    | 40  | 0     | 91.282000 | 65.64098           |
| 630  | 633 Salina    | 17  | 0     | 38.25     | 23.375             |
| 631  | 634 Salina    | 0   | 0     | 0         | 0                  |
| 632  | 635 Salina    | 71  | 0     | 169.3858  | 101.4286           |
| 633  | 636 Van Buren | 62  | 0     | 168.43350 | 126.0668           |
| 634  | 637 Salina    | 473 | 0     | 1051.332  | 643.9156930800001  |
| 635  | 638 Dewitt    | 9   | 0     | 24.999974 | 13.99999           |
| 636  | 639 Geddes    | 400 | 0     | 959.19450 | 714.358            |
| 637  | 640 Salina    | 249 | 0     | 501.98400 | 318.71999999999997 |
| 638  | 641 Sullivan  | 163 | 0     | 345.11018 | 294.524            |
| 639  | 642 Geddes    | 442 | 1     | 1012.8685 | 776.2689           |



| TAZ | Town_City     | HH   | HH_GQ | pop       | veh                |
|-----|---------------|------|-------|-----------|--------------------|
| 640 | 643 Sullivan  | 99   | 0     | 247.49986 | 196.8214           |
| 641 | 644 Dewitt    | 0    | 15    | 15        | 0                  |
| 642 | 645 Salina    | 78   | 0     | 188.0002  | 110.00007719999999 |
| 643 | 646 Salina    | 531  | 0     | 1188.049  | 717.5935380599999  |
| 644 | 647 Salina    | 18   | 0     | 46.42104  | 24.63157           |
| 645 | 648 Salina    | 236  | 0     | 505.00008 | 311                |
| 646 | 649 Salina    | 4    | 0     | 10        | 7                  |
| 647 | 650 Dewitt    | 228  | 0     | 605.5487  | 408.1938           |
| 648 | 651 Dewitt    | 29   | 0     | 54.000032 | 41.00003           |
| 649 | 652 Salina    | 36   | 0     | 84.34297  | 54.51436439999999  |
| 650 | 653 Van Buren | 22   | 0     | 55.00005  | 44.00005           |
| 651 | 654 Salina    | 492  | 0     | 990.0238  | 710.8892           |
| 652 | 655 Salina    | 600  | 0     | 1387.748  | 832.4497739999999  |
| 653 | 656 Elbridge  | 263  | 0     | 653.1884  | 496.89765609999995 |
| 654 | 657 Salina    | 306  | 2     | 525.1618  | 394.839            |
| 655 | 658 Salina    | 416  | 0     | 896.689   | 661.8180607999999  |
| 656 | 659 Sullivan  | 74   | 0     | 151.1714  | 127.91428359999998 |
| 657 | 660 Sullivan  | 197  | 0     | 382.2738  | 342.4048           |
| 658 | 661 Salina    | 0    | 1     | 1         | 0                  |
| 659 | 662 Salina    | 54   | 0     | 131.0001  | 91.00008720000001  |
| 660 | 663 Salina    | 67   | 0     | 97.544201 | 80.79418779999999  |
| 661 | 664 Salina    | 115  | 0     | 234.00001 | 176                |
| 662 | 665 Salina    | 153  | 0     | 286.1299  | 229.5001           |
| 663 | 666 Geddes    | 247  | 0     | 598.00004 | 445.99992190000006 |
| 664 | 667 Salina    | 520  | 3     | 1203.3843 | 813.8706523999999  |
| 665 | 668 Dewitt    | 17   | 0     | 37.1875   | 25.5               |
| 666 | 669 Van Buren | 150  | 0     | 382.2914  | 298.9582           |
| 667 | 670 Van Buren | 61   | 0     | 159.3869  | 121.01602120000001 |
| 668 | 671 Sullivan  | 195  | 0     | 505.4307  | 394.4825           |
| 669 | 672 Dewitt    | 0    | 0     | 0         | 0                  |
| 670 | 673 Dewitt    | 13   | 23    | 46.472212 | 18.41666           |
| 671 | 674 Manlius   | 177  | 0     | 448.2604  | 336.1953           |
| 672 | 675 Manlius   | 240  | 7     | 555.276   | 435.51736800000003 |
| 673 | 676 Salina    | 327  | 6     | 760.24190 | 447.67900991999994 |
| 674 | 677 Salina    | 421  | 0     | 863.20176 | 659.2641290500001  |
| 675 | 678 Van Buren | 88   | 0     | 212.66669 | 169.7142           |
| 676 | 679 Salina    | 1057 | 0     | 2421.893  | 1762.7232051100002 |
| 677 | 680 Salina    | 179  | 0     | 412.69436 | 295.3499           |
| 678 | 681 Salina    | 483  | 0     | 1150.6177 | 825.2913           |
| 679 | 682 Van Buren | 45   | 0     | 110.17241 | 74.48278049999999  |
| 680 | 683 Salina    | 271  | 7     | 634.78426 | 423.07205650000003 |
| 681 | 684 Salina    | 103  | 0     | 225.99999 | 177.99998354000002 |
| 682 | 685 Salina    | 313  | 7     | 673.10312 | 503.7344           |



| TAZ  | Town_City     | HH  | HH_GQ | pop       | veh                |
|------|---------------|-----|-------|-----------|--------------------|
| 683  | 686 Dewitt    | 68  | 0     | 138.0297  | 105.5521           |
| 684  | 687 Salina    | 285 | 0     | 525       | 395.00005919999995 |
| 685  | 688 Van Buren | 183 | 0     | 490.6816  | 369.0167           |
| 686  | 689 Van Buren | 0   | 2     | 2         | 0                  |
| 687  | 690 Dewitt    | 13  | 0     | 24.99999  | 17.99999           |
| 688  | 691 Dewitt    | 2   | 0     | 5         | 3                  |
| 689  | 692 Salina    | 273 | 19    | 571.5447  | 440.35294211999997 |
| 690  | 693 Salina    | 471 | 0     | 774.99986 | 654.9997           |
| 691  | 694 Geddes    | 11  | 0     | 26.4      | 19.8               |
| 692  | 695 Salina    | 4   | 0     | 9         | 6                  |
| 693  | 696 Van Buren | 2   | 0     | 4         | 4                  |
| 694  | 697 Salina    | 201 | 0     | 455.265   | 357.78             |
| 695  | 698 Salina    | 288 | 0     | 705.9021  | 539.7482           |
| 696  | 699 Sullivan  | 80  | 0     | 173.7142  | 146.28565599999996 |
| 697  | 700 Van Buren | 183 | 0     | 398.8203  | 298.3694           |
| 698  | 701 Salina    | 579 | 0     | 1235.619  | 928.2878           |
| 1101 | 1107 Clay     | 10  | 0     | 22        | 14                 |
| 1102 | 1108 Clay     | 50  | 0     | 104.08157 | 71.42853           |
| 699  | 703 Van Buren | 107 | 0     | 285.6797  | 212.96122259999999 |
| 700  | 704 Geddes    | 105 | 6     | 261.4052  | 191.081            |
| 701  | 705 Salina    | 548 | 5     | 1108.957  | 732.9876           |
| 702  | 706 Salina    | 4   | 0     | 6         | 4                  |
| 703  | 707 Geddes    | 0   | 1     | 1         | 0                  |
| 704  | 708 Van Buren | 503 | 0     | 1137.0782 | 829.0972           |
| 705  | 709 Clay      | 60  | 0     | 131.4286  | 105.71432399999999 |
| 706  | 710 Clay      | 47  | 0     | 67.14286  | 57.07143260000001  |
| 707  | 711 Salina    | 30  | 0     | 70.34482  | 53.7931            |
| 1099 | 1105 Salina   | 0   | 0     | 0         | 0                  |
| 1100 | 1106 Salina   | 4   | 0     | 12        | 8                  |
| 708  | 713 Clay      | 160 | 0     | 393.84587 | 303.2165           |
| 709  | 714 Clay      | 1   | 0     | 4         | 2                  |
| 710  | 715 Clay      | 226 | 0     | 449.98219 | 363.2143           |
| 711  | 716 Cicero    | 11  | 0     | 18.333314 | 13.444430999999998 |
| 712  | 717 Van Buren | 320 | 0     | 758.5791  | 552.2847           |
| 713  | 718 Van Buren | 17  | 0     | 45.33336  | 30.60002           |
| 714  | 719 Cicero    | 17  | 0     | 38.533313 | 27.19998           |
| 715  | 720 Cicero    | 30  | 0     | 70.344830 | 48.620690999999994 |
| 716  | 721 Cicero    | 16  | 0     | 46        | 29                 |
| 717  | 722 Van Buren | 161 | 0     | 357.21875 | 262.6313           |
| 718  | 723 Salina    | 656 | 0     | 1591.278  | 1182.4082364800001 |
| 719  | 724 Salina    | 38  | 0     | 106.81070 | 74.97290179999999  |
| 720  | 725 Clay      | 368 | 0     | 623.30600 | 508.6177           |
| 721  | 726 Clay      | 376 | 0     | 813.9996  | 588.9996           |



| TAZ | Town_City     | HH   | HH_GQ | pop       | veh                |
|-----|---------------|------|-------|-----------|--------------------|
| 722 | 727 Clay      | 223  | 0     | 513.30200 | 368.65316359999997 |
| 723 | 728 Cicero    | 0    | 0     | 0         | 0                  |
| 724 | 729 Salina    | 448  | 6     | 857.29933 | 712.2306150400001  |
| 725 | 730 Salina    | 72   | 0     | 154.8493  | 125.2603           |
| 726 | 731 Clay      | 281  | 0     | 700.43414 | 543.4047           |
| 727 | 732 Clay      | 8    | 0     | 18        | 9                  |
| 728 | 733 Clay      | 0    | 0     | 0         | 0                  |
| 729 | 734 Cicero    | 1    | 0     | 1         | 1                  |
| 730 | 735 Cicero    | 174  | 0     | 363.26333 | 256.4212           |
| 731 | 736 Clay      | 554  | 7     | 1209.489  | 834.4816129999999  |
| 732 | 737 Cicero    | 14   | 0     | 21.63634  | 16.54544           |
| 733 | 738 Lysander  | 195  | 0     | 475.24575 | 383.6065           |
| 734 | 739 Lysander  | 101  | 0     | 241.16331 | 196.8469           |
| 735 | 740 Clay      | 511  | 0     | 817.59999 | 626.2254410999999  |
| 736 | 741 Van Buren | 200  | 0     | 367       | 299                |
| 737 | 742 Salina    | 615  | 0     | 1004.0603 | 924.0192           |
| 738 | 743 Cicero    | 423  | 0     | 869.27486 | 633.4878032999999  |
| 739 | 744 Cicero    | 28   | 0     | 49.777730 | 40.444404000000006 |
| 740 | 745 Clay      | 224  | 0     | 526.7029  | 417.72982720000005 |
| 741 | 746 Clay      | 447  | 0     | 1019.4028 | 720.0545988000001  |
| 742 | 747 Clay      | 738  | 0     | 1257.9544 | 1055.6332885800002 |
| 743 | 748 Clay      | 1    | 0     | 2         | 2                  |
| 744 | 749 Clay      | 56   | 0     | 105.99994 | 75.99995200000001  |
| 745 | 750 Clay      | 1460 | 8     | 3109.6224 | 2071.0933806000003 |
| 746 | 751 Cicero    | 0    | 0     | 0         | 0                  |
| 747 | 752 Cicero    | 321  | 5     | 678.09687 | 475.48125000000005 |
| 748 | 753 Clay      | 288  | 0     | 684.6593  | 528.5274           |
| 749 | 754 Clay      | 589  | 0     | 1387.423  | 936.3593927000001  |
| 750 | 755 Clay      | 391  | 0     | 956.4472  | 744.906            |
| 751 | 756 Clay      | 7    | 0     | 12.833345 | 12.833345000000001 |
| 752 | 757 Van Buren | 691  | 0     | 1347.398  | 1054.3084243600001 |
| 753 | 758 Cicero    | 64   | 0     | 151.1724  | 100.4138           |
| 754 | 759 Cicero    | 148  | 0     | 302.08226 | 218.95895520000002 |
| 755 | 760 Cicero    | 195  | 0     | 429.5942  | 298.93414199999995 |
| 756 | 761 Clay      | 539  | 0     | 1383.566  | 997.8509           |
| 757 | 762 Clay      | 369  | 0     | 938.1703  | 662.1784           |
| 758 | 763 Salina    | 206  | 0     | 481.66225 | 375.1789           |
| 759 | 764 Lysander  | 564  | 0     | 1398.294  | 1057.765           |
| 760 | 765 Cicero    | 9    | 0     | 24.75     | 16.875             |
| 761 | 766 Cicero    | 49   | 0     | 89.179999 | 70.55999999999999  |
| 762 | 767 Van Buren | 81   | 0     | 189.3375  | 137.70000000000002 |
| 763 | 768 Clay      | 246  | 0     | 604.83510 | 450.32255699999996 |
| 764 | 769 Cicero    | 124  | 0     | 286.688   | 210.30399999999997 |



| TAZ | Town_City     | HH  | HH_GQ | pop       | veh                 |
|-----|---------------|-----|-------|-----------|---------------------|
| 765 | 770 Cicero    | 106 | 0     | 238.50020 | 164.889042000000002 |
| 766 | 771 Van Buren | 661 | 0     | 1331.1382 | 1010.2840798699998  |
| 767 | 772 Van Buren | 180 | 0     | 430.0001  | 351.99997199999996  |
| 768 | 773 Van Buren | 113 | 0     | 271.40154 | 219.94624761000003  |
| 769 | 774 Clay      | 468 | 0     | 1098.3879 | 796.8102            |
| 770 | 775 Van Buren | 260 | 0     | 476.49812 | 383.42415800000003  |
| 771 | 776 Van Buren | 48  | 0     | 114.6123  | 91.10212            |
| 772 | 777 Van Buren | 28  | 0     | 67.40738  | 55.999972000000014  |
| 773 | 778 Clay      | 503 | 0     | 1184.778  | 810.0529296000002   |
| 774 | 779 Clay      | 136 | 0     | 332.89542 | 219.22385359999998  |
| 775 | 780 Cicero    | 146 | 0     | 348.95013 | 272.3261            |
| 776 | 781 Clay      | 217 | 0     | 519.39370 | 392.81036634000003  |
| 777 | 782 Clay      | 474 | 0     | 1072.7903 | 824.2170045600001   |
| 778 | 783 Cicero    | 25  | 0     | 51.923085 | 36.538465000000001  |
| 779 | 784 Cicero    | 423 | 3     | 858.9762  | 624.5235            |
| 780 | 785 Clay      | 553 | 0     | 1429.9284 | 1041.4155724000002  |
| 781 | 786 Lysander  | 553 | 0     | 1661.3433 | 1129.4321031000002  |
| 782 | 787 Lysander  | 536 | 0     | 1299.395  | 984.0205            |
| 783 | 788 Clay      | 303 | 0     | 729.59198 | 559.1545335000001   |
| 784 | 789 Clay      | 88  | 0     | 235.32551 | 175.99980639999998  |
| 785 | 790 Van Buren | 122 | 0     | 298.5411  | 183.7175            |
| 786 | 791 Clay      | 415 | 0     | 973.9989  | 733.9993365000003   |
| 787 | 792 Cicero    | 229 | 0     | 627.48003 | 429.7532164000001   |
| 788 | 793 Clay      | 3   | 0     | 3         | 3                   |
| 789 | 794 Clay      | 392 | 0     | 961.45228 | 712.8180920000001   |
| 790 | 795 Clay      | 755 | 5     | 2123.84   | 1549.3138843499999  |
| 791 | 796 Van Buren | 61  | 0     | 138.54221 | 102.3558            |
| 792 | 797 Van Buren | 128 | 0     | 335.69805 | 201.6603            |
| 793 | 798 Van Buren | 786 | 0     | 1142.861  | 891.4019869200001   |
| 794 | 799 Clay      | 5   | 0     | 5         | 5                   |
| 795 | 800 Lysander  | 543 | 0     | 1642.1202 | 1112.241            |
| 796 | 801 Cicero    | 461 | 9     | 1198.4816 | 870.3273859000001   |
| 797 | 802 Clay      | 92  | 0     | 213.2725  | 159.9544            |
| 798 | 803 Clay      | 228 | 0     | 505.2158  | 407.7884            |
| 799 | 804 Cicero    | 44  | 0     | 91.47374  | 79.89478639999999   |
| 800 | 805 Cicero    | 0   | 1     | 1         | 0                   |
| 801 | 806 Cicero    | 7   | 0     | 18.200000 | 14                  |
| 802 | 807 Cicero    | 512 | 0     | 1113.3489 | 808.1569484800001   |
| 803 | 808 Clay      | 264 | 4     | 675.54331 | 500.8971            |
| 804 | 809 Van Buren | 383 | 15    | 897.89600 | 562.6205            |
| 805 | 810 Van Buren | 110 | 0     | 243.7837  | 157.56747159999998  |
| 806 | 811 Van Buren | 93  | 0     | 234.00019 | 142.0001            |
| 807 | 812 Van Buren | 316 | 0     | 852.414   | 643.2462820000001   |



| TAZ | Town_City     | HH   | HH_GQ | pop       | veh                |
|-----|---------------|------|-------|-----------|--------------------|
| 808 | 813 Clay      | 1290 | 3     | 3075.305  | 2294.014           |
| 809 | 814 Van Buren | 207  | 0     | 496.8     | 309.672            |
| 810 | 815 Lysander  | 235  | 4     | 712.37322 | 482.36836724999995 |
| 811 | 816 Lysander  | 123  | 0     | 348.27    | 240.47209709999998 |
| 812 | 817 Cicero    | 469  | 0     | 840.37539 | 727.6543           |
| 813 | 818 Sullivan  | 22   | 0     | 56        | 45.00001           |
| 814 | 819 Sullivan  | 48   | 0     | 97.066660 | 83.19999           |
| 815 | 820 Clay      | 29   | 0     | 70.999960 | 49.99999           |
| 816 | 821 Lysander  | 103  | 0     | 194.99998 | 154                |
| 817 | 822 Lysander  | 133  | 0     | 299.2501  | 218.49998100000002 |
| 818 | 823 Lysander  | 185  | 0     | 413.7635  | 307.33874249999997 |
| 819 | 824 Lysander  | 190  | 0     | 426.96637 | 347.97751400000004 |
| 820 | 825 Lysander  | 134  | 0     | 319.61449 | 227.30347640000002 |
| 821 | 826 Clay      | 395  | 0     | 1043.567  | 757.6720545000001  |
| 822 | 827 Clay      | 623  | 0     | 1689.4046 | 1202.369           |
| 823 | 828 Cicero    | 618  | 0     | 1684.6161 | 1179.539           |
| 824 | 829 Clay      | 103  | 0     | 221.14705 | 180.7549           |
| 825 | 830 Cicero    | 221  | 0     | 508.40363 | 391.1595466999999  |
| 826 | 831 Clay      | 614  | 0     | 1603.165  | 1160.3293223800001 |
| 827 | 832 Clay      | 2    | 0     | 2         | 2                  |
| 828 | 833 Clay      | 336  | 0     | 960.60078 | 674.1058           |
| 829 | 834 Cicero    | 224  | 0     | 455.19262 | 363.7431           |
| 830 | 835 Lysander  | 183  | 0     | 483.93315 | 372.0998           |
| 831 | 836 Lysander  | 321  | 0     | 831.76230 | 624.265            |
| 832 | 837 Clay      | 537  | 0     | 1367.465  | 904.8497           |
| 833 | 838 Clay      | 523  | 0     | 1425.98   | 1031.978           |
| 834 | 839 Lysander  | 201  | 0     | 499.4171  | 362.53994933999996 |
| 835 | 840 Lysander  | 86   | 0     | 176.29999 | 136.16666379999998 |
| 836 | 841 Clay      | 985  | 0     | 2720.72   | 1898.6978200000003 |
| 837 | 842 Lysander  | 260  | 0     | 538.6456  | 407.0918           |
| 838 | 843 Sullivan  | 165  | 0     | 348.9173  | 297.42049095000004 |
| 839 | 844 Lysander  | 306  | 0     | 864.35012 | 574.2465247800001  |
| 840 | 845 Lysander  | 188  | 0     | 555.25599 | 357.41878499999996 |
| 841 | 846 Lysander  | 666  | 4     | 1709.099  | 1190.1990096000002 |
| 842 | 847 Lysander  | 154  | 0     | 337.99992 | 256.9999           |
| 843 | 848 Lysander  | 177  | 0     | 451.783   | 355.2376           |
| 844 | 849 Cicero    | 229  | 0     | 547.0002  | 420.00024379999996 |
| 845 | 850 Cicero    | 503  | 0     | 1080.7032 | 840.6576627999999  |
| 846 | 851 Clay      | 1286 | 2     | 3328.7229 | 2510.1963831999997 |
| 847 | 852 Cicero    | 113  | 0     | 307.0654  | 203.89145960000002 |
| 848 | 853 Cicero    | 201  | 0     | 424.77962 | 304.1798           |
| 849 | 854 Cicero    | 31   | 0     | 86.79995  | 57.86664           |
| 850 | 855 Cicero    | 386  | 0     | 1175.4959 | 750.1304983599999  |



| TAZ  | Town_City    | HH   | HH_GQ | pop       | veh                |
|------|--------------|------|-------|-----------|--------------------|
| 851  | 856 Cicero   | 136  | 0     | 382.4362  | 251.54889119999999 |
| 852  | 857 Clay     | 426  | 0     | 834.151   | 753.2349629400001  |
| 853  | 858 Clay     | 728  | 0     | 1876.58   | 1420.9532864799999 |
| 854  | 859 Clay     | 1096 | 0     | 2456.045  | 1776.023           |
| 855  | 860 Sullivan | 148  | 0     | 378.7059  | 297.4509           |
| 856  | 861 Clay     | 648  | 0     | 1934.017  | 1315.9701936000001 |
| 857  | 862 Clay     | 8    | 0     | 18.285695 | 14.85713           |
| 858  | 863 Clay     | 232  | 0     | 606.4566  | 455.85993199999996 |
| 859  | 864 Clay     | 134  | 0     | 326.26106 | 256.34796299999994 |
| 860  | 865 Sullivan | 71   | 0     | 159.2123  | 132.3183           |
| 861  | 866 Cicero   | 436  | 0     | 1149.9240 | 810.0096071999999  |
| 862  | 867 Clay     | 277  | 0     | 648.58444 | 513.4629058999999  |
| 863  | 868 Clay     | 182  | 0     | 391.29999 | 327.6              |
| 864  | 869 Lysander | 310  | 0     | 892.96964 | 607.304            |
| 865  | 870 Lysander | 600  | 0     | 1357.448  | 985.1072999999999  |
| 866  | 871 Cicero   | 87   | 0     | 212.0625  | 157.6875           |
| 867  | 872 Cicero   | 7    | 0     | 15.400000 | 11.200000000000001 |
| 868  | 873 Cicero   | 598  | 0     | 1687.292  | 1128.196           |
| 869  | 874 Cicero   | 332  | 0     | 727.10760 | 581.686            |
| 870  | 875 Cicero   | 468  | 0     | 1311.9354 | 877.9116           |
| 871  | 876 Clay     | 67   | 0     | 0         | 0                  |
| 872  | 877 Clay     | 0    | 0     | 0         | 0                  |
| 873  | 878 Lysander | 540  | 0     | 925.12366 | 721.7206           |
| 874  | 879 Clay     | 105  | 0     | 229.94999 | 189.00000000000003 |
| 875  | 880 Clay     | 5    | 0     | 10        | 10                 |
| 876  | 881 Clay     | 10   | 0     | 24.28569  | 19.99998           |
| 877  | 882 Clay     | 67   | 0     | 158.73843 | 123.6923           |
| 878  | 883 Lysander | 28   | 0     | 81.05258  | 58.94734           |
| 879  | 884 Cicero   | 922  | 0     | 2545.2424 | 1787.0637339999996 |
| 880  | 885 Cicero   | 282  | 0     | 790.3948  | 548.113            |
| 881  | 886 Cicero   | 180  | 0     | 460.5589  | 327.8212740000001  |
| 882  | 887 Clay     | 363  | 0     | 544.5     | 544.5              |
| 883  | 888 Clay     | 15   | 0     | 33.21431  | 27.857163000000007 |
| 884  | 889 Clay     | 23   | 0     | 61.681860 | 46.00004           |
| 885  | 890 Lysander | 358  | 0     | 863.09351 | 642.4532           |
| 886  | 891 Lysander | 265  | 0     | 693.6449  | 526.8323755000001  |
| 887  | 892 Lysander | 216  | 0     | 566.8726  | 435.04179839999995 |
| 888  | 893 Clay     | 28   | 0     | 68.923103 | 56.00001           |
| 889  | 894 Clay     | 6    | 0     | 10.800000 | 10.8               |
| 890  | 895 Lysander | 635  | 7     | 1424.89   | 1051.783           |
| 891  | 896 Lysander | 257  | 0     | 685.6806  | 524.4051           |
| 1106 | 1112 Clay    | 166  | 0     | 381.44681 | 289.617            |
| 1103 | 1109 Clay    | 9    | 0     | 19.800000 | 17.1               |



|      | TAZ  | Town_City  | HH  | HH_GQ | pop       | veh                 |
|------|------|------------|-----|-------|-----------|---------------------|
| 1104 | 1110 | Clay       | 12  | 0     | 26.999996 | 23.999997600000004  |
| 1105 | 1111 | Clay       | 10  | 0     | 22.72727  | 20                  |
| 892  | 898  | Clay       | 62  | 0     | 153.6522  | 118.6087            |
| 893  | 899  | Clay       | 37  | 0     | 70.63637  | 70.63637            |
| 894  | 900  | Clay       | 24  | 0     | 67.2      | 50.400000000000006  |
| 895  | 901  | Clay       | 66  | 0     | 161.04000 | 132                 |
| 896  | 902  | Cicero     | 458 | 0     | 1145.5682 | 834.1735825999999   |
| 897  | 903  | Cicero     | 127 | 0     | 247.17209 | 192.5484            |
| 898  | 904  | Cicero     | 158 | 0     | 293.42851 | 236.99995259999997  |
| 899  | 905  | Cicero     | 169 | 0     | 399.56423 | 295.7499            |
| 900  | 906  | Clay       | 31  | 0     | 82.269204 | 64.384603700000001  |
| 901  | 907  | Clay       | 78  | 0     | 180.96    | 149.76              |
| 902  | 908  | Clay       | 119 | 0     | 261.80001 | 218.339147250000005 |
| 903  | 909  | Lysander   | 399 | 0     | 1015.6370 | 720.2731241999999   |
| 904  | 910  | Lysander   | 90  | 0     | 201.1111  | 172.22219099999998  |
| 905  | 911  | Schroepppe | 63  | 0     | 119.8033  | 106.37705609999998  |
| 906  | 912  | Cicero     | 303 | 0     | 669.04042 | 516.52358490000001  |
| 907  | 913  | Cicero     | 89  | 0     | 230.5911  | 169.9092            |
| 908  | 914  | Schroepppe | 105 | 4     | 238       | 160.00005314999999  |
| 909  | 915  | Lysander   | 146 | 0     | 396.7393  | 303.6379            |
| 910  | 916  | Cicero     | 506 | 0     | 1389.964  | 960.7858            |
| 911  | 917  | Schroepppe | 147 | 0     | 350.29800 | 225.191622600000002 |
| 912  | 918  | Clay       | 194 | 0     | 477.7766  | 369.4256            |
| 913  | 919  | Clay       | 210 | 0     | 531.09649 | 399.6773            |
| 914  | 920  | Schroepppe | 89  | 0     | 214.45791 | 137.25311219999998  |
| 915  | 921  | Schroepppe | 95  | 0     | 217.14267 | 145.10976399999998  |
| 916  | 922  | Clay       | 268 | 0     | 687.75942 | 516.6268427999998   |
| 917  | 923  | Clay       | 45  | 0     | 107.06885 | 88.448179500000001  |
| 918  | 924  | Schroepppe | 171 | 0     | 399.7125  | 256.5               |
| 919  | 925  | Schroepppe | 81  | 0     | 154.53941 | 106.578900900000001 |
| 920  | 926  | Schroepppe | 57  | 0     | 147.77794 | 97.111224900000001  |
| 921  | 927  | Cicero     | 281 | 0     | 809.57698 | 553.3347            |
| 922  | 928  | Cicero     | 406 | 0     | 815.12345 | 641.2721            |
| 923  | 929  | Cicero     | 424 | 0     | 1159.764  | 804.3529            |
| 924  | 930  | Schroepppe | 87  | 0     | 183.32151 | 125.3214            |
| 925  | 931  | Schroepppe | 32  | 0     | 59.586204 | 45.2414             |
| 926  | 932  | Schroepppe | 53  | 0     | 137.3672  | 86.53055599999999   |
| 927  | 933  | Cicero     | 127 | 0     | 267.1031  | 207.6349            |
| 928  | 934  | Cicero     | 138 | 0     | 310.50003 | 232.36771475999998  |
| 929  | 935  | Schroepppe | 148 | 0     | 247.6944  | 188.0833            |
| 930  | 936  | Hastings   | 76  | 0     | 161.7714  | 142.2285            |
| 931  | 937  | Hastings   | 133 | 0     | 280.896   | 211.736000000000005 |
| 932  | 938  | Hastings   | 170 | 0     | 379.06801 | 319.9377            |



| TAZ | Town_City     | HH  | HH_GQ | pop       | veh                |
|-----|---------------|-----|-------|-----------|--------------------|
| 933 | 939 Hastings  | 105 | 0     | 239.99987 | 174.23065800000003 |
| 934 | 940 Hastings  | 145 | 0     | 371.56275 | 262.81258699999995 |
| 935 | 941 Hastings  | 230 | 0     | 299.8214  | 252.58931889999997 |
| 936 | 942 Hastings  | 106 | 0     | 241.84467 | 178.03886140000003 |
| 937 | 943 Hastings  | 86  | 0     | 194.08123 | 142.94606960000002 |
| 938 | 944 Hastings  | 193 | 7     | 490.5845  | 328.5339           |
| 939 | 945 Hastings  | 123 | 0     | 231.84942 | 218.78747507999998 |
| 940 | 946 Hastings  | 220 | 0     | 598.5782  | 403.14685399999996 |
| 941 | 947 Hastings  | 26  | 0     | 59.58333  | 47.66666           |
| 942 | 948 Hastings  | 107 | 0     | 257.2555  | 209.44696809999996 |
| 943 | 949 Hastings  | 23  | 0     | 57.000044 | 46.000034500000005 |
| 944 | 950 Hastings  | 21  | 0     | 67.2      | 47.25              |
| 945 | 951 Hastings  | 138 | 0     | 269.157   | 249.76858739999997 |
| 946 | 952 Hastings  | 23  | 0     | 58.047611 | 44.904751499999996 |
| 947 | 953 Hastings  | 89  | 0     | 235.45572 | 181.3798           |
| 948 | 954 Hastings  | 3   | 0     | 9.75      | 6.75               |
| 949 | 955 West Monr | 107 | 0     | 268.57    | 212.92999999999998 |
| 950 | 956 Hastings  | 128 | 0     | 346.9754  | 262.3472           |
| 951 | 957 Sullivan  | 59  | 0     | 145.39288 | 115.8929           |
| 952 | 958 Sullivan  | 57  | 0     | 127.4727  | 109.8546           |
| 953 | 959 Sullivan  | 140 | 5     | 349.4601  | 272.9495           |
| 954 | 960 Sullivan  | 273 | 0     | 621.3103  | 522.9884           |
| 955 | 961 Sullivan  | 92  | 0     | 225.91099 | 183.99992640000002 |
| 956 | 962 Sullivan  | 30  | 0     | 70.000019 | 60.00001           |
| 957 | 963 Sullivan  | 94  | 0     | 185.911   | 163.97767960000002 |
| 958 | 964 Sullivan  | 304 | 0     | 725.4067  | 591.2274           |
| 959 | 965 Sullivan  | 67  | 0     | 149.7031  | 127.7188           |
| 960 | 966 Sullivan  | 84  | 0     | 216.14615 | 171.07305600000004 |
| 961 | 967 Sullivan  | 180 | 0     | 399.08583 | 335.3144           |
| 962 | 968 Sullivan  | 8   | 0     | 18.285695 | 14.85713           |
| 963 | 969 Sullivan  | 36  | 0     | 83.64708  | 68.82354           |
| 964 | 970 Sullivan  | 32  | 0     | 87        | 67                 |
| 965 | 971 Sullivan  | 16  | 0     | 42        | 33                 |
| 966 | 972 Sullivan  | 12  | 0     | 22.909076 | 18.545441999999998 |
| 967 | 973 Sullivan  | 52  | 0     | 135.6078  | 100.9411           |
| 968 | 974 Sullivan  | 43  | 0     | 105.92679 | 85.99997           |
| 969 | 975 Sullivan  | 108 | 0     | 273.1151  | 208.7306           |
| 970 | 976 Sullivan  | 44  | 0     | 119.4287  | 89.04768           |
| 971 | 977 Sullivan  | 92  | 0     | 237.7529  | 187.1013           |
| 972 | 978 Sullivan  | 24  | 0     | 60.000016 | 50.00001           |
| 973 | 979 Sullivan  | 41  | 0     | 96.717913 | 80.94869           |
| 974 | 980 Sullivan  | 95  | 0     | 240.59776 | 192.06514799999997 |
| 975 | 981 Sullivan  | 72  | 0     | 181.02836 | 140.91415919999997 |



| TAZ  | Town_City      | HH  | HH_GQ | pop       | veh                |
|------|----------------|-----|-------|-----------|--------------------|
| 976  | 982 Sullivan   | 184 | 0     | 455.8183  | 356.49998528000003 |
| 977  | 983 Sullivan   | 8   | 0     | 20        | 17                 |
| 978  | 984 Sullivan   | 87  | 0     | 213.3571  | 170.8928           |
| 979  | 985 Sullivan   | 24  | 0     | 64.363667 | 46.90911           |
| 980  | 986 Sullivan   | 94  | 0     | 258.7637  | 189.0559           |
| 981  | 987 Sullivan   | 31  | 0     | 72.68961  | 58.79306           |
| 982  | 988 Sullivan   | 124 | 0     | 325.7629  | 254.3051           |
| 983  | 989 Sullivan   | 130 | 0     | 334.28593 | 228.016            |
| 984  | 990 Sullivan   | 53  | 0     | 122.3078  | 102.94241410000001 |
| 985  | 991 Sullivan   | 34  | 0     | 79.99998  | 64.99998           |
| 986  | 992 Sullivan   | 500 | 0     | 1183.438  | 832.28500000000001 |
| 987  | 993 Sullivan   | 153 | 0     | 331.32396 | 277.5102           |
| 988  | 994 Sullivan   | 76  | 0     | 164.32429 | 119.13512240000001 |
| 989  | 995 Sullivan   | 332 | 7     | 774.8768  | 534.66242800000001 |
| 990  | 996 Sullivan   | 484 | 0     | 1165.572  | 801.7884           |
| 991  | 997 Sullivan   | 122 | 0     | 267.13790 | 195.6207           |
| 992  | 998 Sullivan   | 293 | 5     | 788.212   | 587.1273           |
| 993  | 999 Sullivan   | 8   | 0     | 22.85712  | 19.428551999999996 |
| 994  | 1000 Sullivan  | 33  | 0     | 76.64506  | 59.61283           |
| 995  | 1001 Sullivan  | 32  | 0     | 80.51611  | 63.99997760000001  |
| 996  | 1002 Sullivan  | 32  | 0     | 81.54828  | 61.9354            |
| 997  | 1003 Sullivan  | 65  | 0     | 143.62902 | 123.70965749999999 |
| 998  | 1004 Sullivan  | 36  | 0     | 75.1765   | 69.88238           |
| 999  | 1005 Sullivan  | 21  | 0     | 50.400000 | 40.95              |
| 1000 | 1006 Sullivan  | 102 | 0     | 227.93873 | 167.57134259999998 |
| 1001 | 1007 Sullivan  | 71  | 0     | 151.2609  | 131.71014749999998 |
| 1002 | 1008 Sullivan  | 36  | 0     | 90.51441  | 70.97153           |
| 1003 | 1009 Granby    | 46  | 0     | 106.63632 | 79.45453           |
| 1004 | 1010 Schroeppe | 59  | 0     | 133.5262  | 107.64902230000001 |
| 1005 | 1011 Schroeppe | 142 | 0     | 374.8383  | 278.77941827999996 |
| 1006 | 1012 Schroeppe | 81  | 0     | 216.342   | 156.87361529999998 |
| 1007 | 1013 Schroeppe | 29  | 0     | 70.88882  | 55.851804699999995 |
| 1008 | 1014 Schroeppe | 41  | 0     | 106.60000 | 82                 |
| 1009 | 1015 Schroeppe | 35  | 0     | 81.32347  | 64.85289           |
| 1010 | 1016 Schroeppe | 17  | 0     | 39.66666  | 31.166664400000005 |
| 1011 | 1017 Schroeppe | 69  | 0     | 166.8357  | 131.82080159999998 |
| 1012 | 1018 Schroeppe | 31  | 0     | 73.00001  | 59.00002149999999  |
| 1013 | 1019 Schroeppe | 35  | 0     | 105       | 75.46875           |
| 1014 | 1020 Schroeppe | 43  | 0     | 118.25    | 88.15              |
| 1015 | 1021 Schroeppe | 68  | 0     | 175.1516  | 130.8485           |
| 1016 | 1022 Schroeppe | 15  | 0     | 31.071426 | 26.78571           |
| 1017 | 1023 Schroeppe | 221 | 0     | 585.4929  | 427.3365           |
| 1018 | 1024 Schroeppe | 58  | 0     | 136.4074  | 108.48149480000001 |



| TAZ  | Town_City       | HH  | HH_GQ | pop       | veh                 |
|------|-----------------|-----|-------|-----------|---------------------|
| 1019 | 1025 Schroepppe | 98  | 0     | 241.9375  | 184.7709            |
| 1020 | 1026 Schroepppe | 31  | 0     | 78.607202 | 62.000046499999996  |
| 1021 | 1027 Schroepppe | 48  | 0     | 124.7999  | 97.0666             |
| 1022 | 1028 Schroepppe | 56  | 0     | 124.9231  | 101.230796800000001 |
| 1023 | 1029 Schroepppe | 208 | 0     | 444.2209  | 361.64802543999997  |
| 1024 | 1030 Schroepppe | 48  | 0     | 103.3045  | 87.65224            |
| 1025 | 1031 Schroepppe | 57  | 0     | 143.55546 | 112.94438849999999  |
| 1026 | 1032 Schroepppe | 272 | 0     | 694.6458  | 523.0767            |
| 1027 | 1033 Schroepppe | 102 | 0     | 285.81270 | 207.1876            |
| 1028 | 1034 Schroepppe | 175 | 0     | 404.491   | 321.70661599999994  |
| 1029 | 1035 Schroepppe | 29  | 0     | 65.73334  | 53.16668            |
| 1030 | 1036 Schroepppe | 62  | 0     | 154.4746  | 119.796617000000001 |
| 1031 | 1037 Schroepppe | 11  | 0     | 21.083331 | 19.25               |
| 1032 | 1038 Schroepppe | 21  | 0     | 40.949999 | 35.7                |
| 1033 | 1039 Schroepppe | 40  | 0     | 107.02694 | 81.081012000000002  |
| 1034 | 1040 Hastings   | 71  | 0     | 167.72459 | 119.362310300000002 |
| 1035 | 1041 Hastings   | 40  | 0     | 99.999984 | 72.63157            |
| 1036 | 1042 Hastings   | 192 | 0     | 460.59    | 336.78672767999996  |
| 1037 | 1043 Hastings   | 56  | 0     | 154.5186  | 105.7779            |
| 1038 | 1044 Hastings   | 31  | 0     | 79.714302 | 57.57143            |
| 1039 | 1045 Hastings   | 12  | 0     | 28.363627 | 23.99999            |
| 1040 | 1046 Hastings   | 123 | 0     | 351.28    | 233.4917            |
| 1041 | 1047 Hastings   | 36  | 0     | 89.485797 | 65.828638800000001  |
| 1042 | 1048 Hastings   | 18  | 0     | 55.058832 | 39.17647            |
| 1043 | 1049 Hastings   | 27  | 0     | 62.307743 | 51.92312            |
| 1044 | 1050 Hastings   | 34  | 0     | 85.99996  | 65.99996            |
| 1045 | 1051 Hastings   | 73  | 0     | 207.69    | 151.1408            |
| 1046 | 1052 Hastings   | 113 | 0     | 305.5186  | 230.1852            |
| 1047 | 1053 Hastings   | 42  | 0     | 94        | 78.99999            |
| 1048 | 1054 Hastings   | 100 | 0     | 296.9072  | 211.340189999999998 |
| 1049 | 1055 Hastings   | 82  | 0     | 186.55    | 159.9               |
| 1050 | 1056 Hastings   | 111 | 0     | 261.7926  | 216.7643            |
| 1051 | 1057 Hastings   | 81  | 0     | 202.49999 | 159.923087099999998 |
| 1052 | 1058 Hastings   | 108 | 0     | 277.2692  | 214.9615            |
| 1053 | 1059 Hastings   | 42  | 0     | 115.00006 | 87.000034799999998  |
| 1054 | 1060 Hastings   | 115 | 0     | 326.3512  | 240.360211999999996 |
| 1055 | 1061 Hastings   | 66  | 0     | 193.875   | 138.1875            |
| 1056 | 1062 Hastings   | 12  | 0     | 20.72726  | 21.81817            |
| 1057 | 1063 Hastings   | 26  | 0     | 75.920000 | 55.1200000000000005 |
| 1058 | 1064 Hastings   | 24  | 0     | 67.826164 | 50.0870232000000004 |
| 1059 | 1065 Hastings   | 60  | 0     | 168.62080 | 123.103524000000001 |
| 1060 | 1066 Hastings   | 29  | 0     | 81.82143  | 61.10714            |
| 1061 | 1067 Hastings   | 93  | 0     | 234.03287 | 184.9779            |



| TAZ  | Town_City      | HH  | HH_GQ | pop       | veh                |
|------|----------------|-----|-------|-----------|--------------------|
| 1062 | 1068 West Monr | 25  | 0     | 64.42308  | 50.000012500000004 |
| 1063 | 1069 West Monr | 35  | 0     | 84.84844  | 68.93936           |
| 1064 | 1070 West Monr | 34  | 0     | 87.999956 | 67.99998           |
| 1065 | 1071 West Monr | 19  | 0     | 39.055564 | 35.88889           |
| 1066 | 1072 West Monr | 61  | 0     | 133.5689  | 116.74129369999999 |
| 1067 | 1073 West Monr | 25  | 0     | 57.692360 | 50.961557500000005 |
| 1068 | 1074 West Monr | 98  | 0     | 284.51627 | 205.484            |
| 1069 | 1075 West Monr | 132 | 0     | 332.598   | 255.6847           |
| 1070 | 1076 West Monr | 38  | 0     | 86.85723  | 71.65720040000001  |
| 1071 | 1077 West Monr | 53  | 0     | 143.41164 | 107.0391           |
| 1072 | 1078 West Monr | 78  | 0     | 183.4054  | 151.78375680000002 |
| 1073 | 1079 West Monr | 110 | 0     | 276.5421  | 213.8318           |
| 1074 | 1080 West Monr | 51  | 0     | 131.1429  | 99.91838910000001  |
| 1075 | 1081 West Monr | 83  | 0     | 193.66658 | 161.9011           |
| 1076 | 1082 West Monr | 68  | 0     | 177.2122  | 138.0607           |
| 1077 | 1083 West Monr | 71  | 0     | 193.16163 | 141.9999           |
| 1078 | 1084 West Monr | 61  | 0     | 154.0508  | 121.99995120000001 |
| 1079 | 1085 Hastings  | 38  | 0     | 98.594534 | 75.99995           |
| 1080 | 1086 West Monr | 50  | 0     | 121.87503 | 96.87503           |
| 1081 | 1087 West Monr | 107 | 0     | 247.24287 | 204.6505           |
| 1082 | 1088 West Monr | 85  | 0     | 200.432   | 164.753            |
| 1083 | 1089 West Monr | 32  | 0     | 76.79994  | 62.93328           |
| 1084 | 1090 Schroeppe | 6   | 0     | 18.99999  | 13                 |
| 1085 | 1091 Schroeppe | 26  | 0     | 67.40735  | 51.99996           |
| 1086 | 1092 Schroeppe | 17  | 0     | 40.99998  | 31.999984000000005 |
| 1087 | 1093 Schroeppe | 19  | 0     | 54.76472  | 40.2353            |
| 1088 | 1094 Schroeppe | 7   | 0     | 18.99998  | 14.999984999999999 |
| 1089 | 1095 Schroeppe | 74  | 0     | 189.69017 | 141.74652640000002 |
| 1090 | 1096 West Monr | 17  | 0     | 37.1875   | 30.8125            |
| 1091 | 1097 West Monr | 37  | 0     | 100.7222  | 72.97221           |
| 1092 | 1098 Hastings  | 17  | 0     | 47.222239 | 34.94445540000001  |
| 1093 | 1099 Hastings  | 97  | 0     | 269.3298  | 202.25537899999998 |
| 1094 | 1100 Sullivan  | 24  | 0     | 54.000002 | 50.00001           |
| 1095 | 1101 Sullivan  | 21  | 0     | 61.894719 | 44.210510400000004 |
| 1109 | 8001 Geddes    | 0   | 0     | 0         | 0                  |
| 1110 | 8002 Syracuse  | 0   | 0     | 0         | 0                  |
| 1111 | 8003 Onondaga  | 0   | 858   | 858       | 0                  |
| 1112 | 8004 Onondaga  | 0   | 0     | 0         | 0                  |
| 1113 | 8005 Syracuse  | 0   | 13    | 13        | 0                  |
| 1114 | 8006 Syracuse  | 0   | 2569  | 2569      | 0                  |
| 1115 | 8007 Syracuse  | 0   | 0     | 0         | 0                  |
| 1116 | 8008 Syracuse  | 0   | 0     | 0         | 0                  |
| 1117 | 8009 Syracuse  | 0   | 0     | 0         | 0                  |



| TAZ  | Town_City | HH       | HH_GQ | pop  | veh  |   |
|------|-----------|----------|-------|------|------|---|
| 1118 | 8010      | Dewitt   | 5     | 1281 | 1286 | 5 |
| 1119 | 8011      | Syracuse | 0     | 51   | 51   | 0 |
| 1120 | 8012      | Syracuse | 0     | 2966 | 2966 | 0 |
| 1121 | 8013      | Syracuse | 0     | 0    | 0    | 0 |
| 1122 | 8014      | Syracuse | 0     | 0    | 0    | 0 |
| 1123 | 8015      | Syracuse | 0     | 0    | 0    | 0 |
| 1124 | 8016      | Dewitt   | 0     | 0    | 0    | 0 |



| TAZ | Town_City     | HH  | HH_GQ | pop       | veh                |
|-----|---------------|-----|-------|-----------|--------------------|
| 0   | 1 Tully       | 237 | 0     | 574.47931 | 459.8017494899999  |
| 1   | 2 Tully       | 346 | 0     | 788.96783 | 646.8215           |
| 2   | 3 Tully       | 148 | 0     | 402.82719 | 296                |
| 3   | 4 Spafford    | 304 | 0     | 744.62863 | 597.7524822400002  |
| 4   | 5 Tully       | 308 | 2     | 708.5265  | 569.1750618399999  |
| 5   | 6 Fabius      | 135 | 0     | 332.64000 | 267.84000000000003 |
| 6   | 7 Fabius      | 167 | 0     | 424.4144  | 340.3825           |
| 7   | 8 Tully       | 132 | 0     | 366.27008 | 259.2431           |
| 8   | 9 Fabius      | 208 | 0     | 526.3676  | 434.041            |
| 9   | 10 Fabius     | 268 | 0     | 672.1611  | 548.9677642400001  |
| 10  | 11 Otisco     | 123 | 0     | 301.61756 | 246.00011070000002 |
| 11  | 12 Otisco     | 389 | 0     | 922.0351  | 755.9214           |
| 12  | 13 Otisco     | 158 | 0     | 408.2547  | 326.6038           |
| 13  | 14 Otisco     | 181 | 0     | 480.26758 | 380.5118           |
| 14  | 15 Otisco     | 162 | 0     | 412.1769  | 323.9998           |
| 15  | 16 Spafford   | 229 | 0     | 529.4315  | 442.24324050999996 |
| 16  | 17 Spafford   | 205 | 0     | 481.96802 | 398.0053372499999  |
| 17  | 18 Lafayette  | 108 | 0     | 243.91016 | 195.37079040000003 |
| 18  | 19 Lafayette  | 361 | 0     | 870.1023  | 675.7177           |
| 19  | 20 Lafayette  | 164 | 5     | 439.9108  | 315.5439           |
| 20  | 21 Lafayette  | 207 | 0     | 507.04547 | 387.8637           |
| 21  | 22 Pompey     | 238 | 0     | 630.85527 | 509.25709659999995 |
| 22  | 23 Pompey     | 252 | 0     | 631.542   | 502.97083200000003 |
| 23  | 24 Pompey     | 132 | 0     | 338.8344  | 276.47233679999994 |
| 24  | 25 Skaneatele | 406 | 0     | 969.64849 | 846.5528           |
| 25  | 26 Skaneatele | 174 | 4     | 394.48833 | 355.08143459999997 |
| 26  | 27 Lafayette  | 136 | 0     | 306.2854  | 245.7141           |
| 27  | 28 Lafayette  | 62  | 0     | 170.21834 | 121.7456           |
| 28  | 29 Lafayette  | 256 | 0     | 549.88800 | 446.464            |
| 29  | 30 Pompey     | 133 | 0     | 317.6607  | 269.2972           |
| 30  | 31 Pompey     | 94  | 5     | 240.49487 | 194.92641820000003 |
| 31  | 32 Pompey     | 90  | 0     | 225.55546 | 186.6666           |
| 32  | 33 Pompey     | 168 | 0     | 439.04059 | 350.56042560000003 |
| 33  | 34 Pompey     | 69  | 0     | 164.1725  | 136.8104           |
| 34  | 35 Pompey     | 58  | 0     | 139.423   | 115.99999420000002 |
| 35  | 36 Marcellus  | 114 | 0     | 282.2333  | 219.14581836000002 |
| 36  | 37 Marcellus  | 26  | 0     | 48.6087   | 46.34783           |
| 37  | 38 Marcellus  | 90  | 0     | 218.8889  | 178.889            |
| 38  | 39 Lafayette  | 273 | 0     | 580.393   | 472.9128           |
| 39  | 40 Skaneatele | 320 | 3     | 694.8909  | 633.5125952000001  |
| 40  | 41 Skaneatele | 17  | 0     | 37.1875   | 39.3125            |
| 41  | 42 Skaneatele | 210 | 0     | 512.4     | 441                |
| 42  | 43 Onondaga   | 125 | 0     | 303.1248  | 246.87484874999998 |



| TAZ | Town_City     | HH  | HH_GQ | pop       | veh                |
|-----|---------------|-----|-------|-----------|--------------------|
| 43  | 44 Onondaga   | 221 | 0     | 577.6842  | 456.3909           |
| 44  | 45 Lafayette  | 89  | 0     | 218.74703 | 169.4217           |
| 45  | 46 Lafayette  | 88  | 0     | 224.63147 | 171.3684           |
| 46  | 47 Pompey     | 87  | 0     | 215.848   | 180.6075           |
| 47  | 48 Pompey     | 291 | 7     | 754.83810 | 605.9888           |
| 48  | 49 Onondaga   | 77  | 4     | 202.9999  | 155.9999           |
| 49  | 50 Onondaga   | 97  | 0     | 220.35856 | 188.72819550000003 |
| 50  | 51 Onondaga   | 225 | 0     | 548.0004  | 448.0002832499999  |
| 51  | 52 Onondaga   | 11  | 0     | 25.14283  | 23.57141           |
| 52  | 53 Marcellus  | 127 | 0     | 324.30375 | 255.1341           |
| 53  | 54 Marcellus  | 214 | 0     | 540.8795  | 423.297            |
| 54  | 55 Marcellus  | 98  | 0     | 235.66658 | 188.9999           |
| 55  | 56 Onondaga   | 306 | 0     | 436.00052 | 436.0008           |
| 56  | 57 Skaneatele | 239 | 0     | 576.1786  | 439.32359555999994 |
| 57  | 58 Skaneatele | 183 | 0     | 434.8823  | 331.045            |
| 58  | 59 Skaneatele | 489 | 0     | 944.27606 | 757.7393           |
| 59  | 60 Onondaga   | 192 | 0     | 450.03148 | 307.8093           |
| 60  | 61 Lafayette  | 316 | 0     | 723.7844  | 569.0624           |
| 61  | 62 Marcellus  | 129 | 0     | 320.1547  | 228.68187716999998 |
| 62  | 63 Onondaga   | 366 | 0     | 912.4655  | 735.0415           |
| 63  | 64 Skaneatele | 149 | 0     | 378.99970 | 284.99982747999996 |
| 64  | 65 Skaneatele | 374 | 0     | 913.1742  | 694.9089           |
| 65  | 66 Skaneatele | 42  | 0     | 116.23253 | 81.06978           |
| 66  | 67 Onondaga   | 195 | 0     | 485.0981  | 301.62536429999994 |
| 67  | 68 Pompey     | 198 | 0     | 549.71003 | 416.8418           |
| 68  | 69 Pompey     | 310 | 6     | 798.8091  | 649.02158000000001 |
| 69  | 70 Pompey     | 323 | 0     | 974.3299  | 712.0924           |
| 70  | 71 Lafayette  | 175 | 0     | 435.36564 | 334.3494           |
| 71  | 72 Pompey     | 127 | 0     | 306.9998  | 256.9999           |
| 72  | 73 Pompey     | 244 | 0     | 746.93802 | 531.5709           |
| 73  | 74 Marcellus  | 429 | 0     | 852.81925 | 695.312            |
| 74  | 75 Onondaga   | 12  | 0     | 20.727263 | 16.36363           |
| 75  | 76 Onondaga   | 250 | 0     | 617.2476  | 409.88337000000007 |
| 76  | 77 Onondaga   | 217 | 0     | 503.93321 | 424.74378036999997 |
| 77  | 78 Marcellus  | 149 | 0     | 426.682   | 302.06382600000006 |
| 78  | 79 Marcellus  | 18  | 0     | 42.75     | 36                 |
| 79  | 80 Marcellus  | 16  | 0     | 35        | 26                 |
| 80  | 81 Onondaga   | 412 | 0     | 926.02879 | 646.1796           |
| 81  | 82 Onondaga   | 302 | 0     | 796.67379 | 565.0323           |
| 82  | 83 Skaneatele | 518 | 0     | 1246.765  | 944.7732277199999  |
| 83  | 84 Manlius    | 16  | 0     | 47.999991 | 30.933318399999997 |
| 84  | 85 Manlius    | 153 | 0     | 448.37478 | 304.9373           |
| 85  | 86 Manlius    | 351 | 0     | 780.3387  | 615.5214448499999  |



| TAZ | Town_City     | HH  | HH_GQ | pop       | veh                |
|-----|---------------|-----|-------|-----------|--------------------|
| 86  | 87 Manlius    | 223 | 0     | 513.4186  | 381.6929815599999  |
| 87  | 88 Marcellus  | 202 | 0     | 495.00036 | 354.00027320000004 |
| 88  | 89 Marcellus  | 208 | 0     | 417.0094  | 335.223            |
| 89  | 90 Dewitt     | 460 | 0     | 1233.056  | 858.6667739999999  |
| 90  | 91 Dewitt     | 70  | 0     | 205.8     | 138.60000000000002 |
| 91  | 92 Marcellus  | 162 | 0     | 401.5776  | 285.2114           |
| 92  | 93 Marcellus  | 193 | 0     | 503.53178 | 351.3588           |
| 93  | 94 Marcellus  | 156 | 0     | 392.9324  | 277.98501120000003 |
| 94  | 95 Onondaga   | 755 | 4     | 1882.2    | 1245.9348390999999 |
| 95  | 96 Syracuse   | 755 | 0     | 1645.641  | 1143.97            |
| 96  | 97 Manlius    | 81  | 0     | 159.42851 | 128.5714           |
| 97  | 98 Manlius    | 625 | 0     | 1387.1691 | 1041.6658125000001 |
| 98  | 99 Syracuse   | 760 | 0     | 1271.98   | 785.8985           |
| 99  | 100 Syracuse  | 310 | 10    | 641.7351  | 349.1169           |
| 100 | 101 Onondaga  | 456 | 7     | 1261.7383 | 862.7556           |
| 101 | 102 Syracuse  | 325 | 26    | 768.59243 | 504.6294           |
| 102 | 103 Marcellus | 312 | 0     | 787.7353  | 562.1155487999999  |
| 103 | 104 Marcellus | 192 | 0     | 499.45918 | 351.56741759999994 |
| 104 | 105 Manlius   | 720 | 1     | 1612.382  | 1273.691           |
| 105 | 106 Dewitt    | 285 | 6     | 646.06314 | 469.06277549999993 |
| 106 | 107 Syracuse  | 33  | 0     | 58.999957 | 33.999969300000004 |
| 107 | 108 Syracuse  | 40  | 0     | 96        | 45                 |
| 108 | 109 Syracuse  | 289 | 0     | 638.7896  | 340.82069114999996 |
| 109 | 110 Syracuse  | 49  | 0     | 103.00000 | 55.99998319999999  |
| 110 | 111 Onondaga  | 341 | 1     | 975.8925  | 656.5313           |
| 111 | 112 Onondaga  | 221 | 0     | 624.2278  | 429.0758           |
| 112 | 113 Onondaga  | 15  | 0     | 43.636333 | 27.272707500000003 |
| 113 | 114 Dewitt    | 48  | 0     | 114.35300 | 101.64712320000001 |
| 114 | 115 Manlius   | 791 | 0     | 2182.93   | 1609.3140209999997 |
| 115 | 116 Onondaga  | 691 | 10    | 1916.206  | 1384.507           |
| 116 | 117 Onondaga  | 663 | 0     | 1837.192  | 1270.2336047699998 |
| 117 | 118 Syracuse  | 687 | 6     | 846.98303 | 544.8621732000001  |
| 118 | 119 Syracuse  | 680 | 0     | 1378.326  | 543.0355           |
| 119 | 120 Manlius   | 376 | 0     | 950.1628  | 728.2886579199999  |
| 120 | 121 Syracuse  | 292 | 0     | 722.6069  | 280.9112           |
| 121 | 122 Syracuse  | 126 | 0     | 272.83467 | 148.81893515999997 |
| 122 | 123 Syracuse  | 312 | 0     | 689.3717  | 367.46675472000004 |
| 123 | 124 Onondaga  | 80  | 0     | 176.62328 | 134.02591200000003 |
| 124 | 125 Manlius   | 386 | 0     | 823.10043 | 668.2284470800001  |
| 125 | 126 Manlius   | 154 | 0     | 305.4334  | 263.0834           |
| 126 | 127 Manlius   | 369 | 0     | 682.25224 | 526.9536455399999  |
| 127 | 128 Syracuse  | 257 | 7     | 590.7179  | 236.49453540000002 |
| 128 | 129 Dewitt    | 2   | 0     | 3         | 3                  |



| TAZ | Town_City    | HH  | HH_GQ | pop       | veh                 |
|-----|--------------|-----|-------|-----------|---------------------|
| 129 | 130 Syracuse | 116 | 0     | 288.51267 | 140.7862            |
| 130 | 131 Syracuse | 86  | 0     | 207.58641 | 105.7702            |
| 131 | 132 Syracuse | 89  | 0     | 213.8045  | 107.4138            |
| 132 | 133 Onondaga | 270 | 14    | 548.9998  | 408.7498            |
| 133 | 134 Manlius  | 267 | 0     | 522.9167  | 404.0263            |
| 134 | 135 Manlius  | 186 | 0     | 448.82587 | 328.5325            |
| 135 | 136 Manlius  | 209 | 0     | 444.5229  | 334.1879            |
| 136 | 137 Manlius  | 318 | 0     | 901.00037 | 647.2427            |
| 137 | 138 Onondaga | 400 | 0     | 1048.167  | 785.33976000000001  |
| 138 | 139 Onondaga | 124 | 0     | 296.9743  | 238.62150551999997  |
| 139 | 140 Onondaga | 0   | 0     | 0         | 0                   |
| 140 | 141 Onondaga | 82  | 0     | 135.97464 | 116.253122000000002 |
| 141 | 142 Onondaga | 476 | 6     | 791.34750 | 666.6079            |
| 142 | 143 Syracuse | 94  | 1     | 250.34709 | 137.5366            |
| 143 | 144 Syracuse | 197 | 14    | 468.95526 | 265.0223            |
| 144 | 145 Syracuse | 343 | 0     | 894.4537  | 416.9064            |
| 145 | 146 Syracuse | 24  | 0     | 45.913051 | 23.9999928000000005 |
| 146 | 147 Syracuse | 15  | 0     | 38.4375   | 15.9375             |
| 147 | 148 Syracuse | 832 | 0     | 1438.3556 | 878.7188883200001   |
| 148 | 149 Syracuse | 276 | 0     | 659.17532 | 384.12382799999995  |
| 149 | 150 Syracuse | 463 | 5     | 1245.952  | 396.0491            |
| 150 | 151 Syracuse | 190 | 7     | 446.4957  | 256.2125            |
| 151 | 152 Onondaga | 10  | 0     | 31.66673  | 18.3333700000000002 |
| 152 | 153 Onondaga | 15  | 0     | 34.28573  | 26.78573            |
| 153 | 154 Manlius  | 84  | 0     | 150.3705  | 136.888978800000002 |
| 154 | 155 Syracuse | 294 | 5     | 597.0828  | 477.7494061199999   |
| 155 | 156 Dewitt   | 460 | 0     | 1052.4707 | 679.0468            |
| 156 | 157 Syracuse | 157 | 0     | 424.29758 | 190.7848            |
| 157 | 158 Syracuse | 265 | 4     | 701.46598 | 219.91330279999997  |
| 158 | 159 Dewitt   | 241 | 0     | 603.01339 | 499.4345            |
| 159 | 160 Dewitt   | 321 | 0     | 801.47100 | 674.9229            |
| 160 | 161 Dewitt   | 241 | 0     | 541.1928  | 384.7544            |
| 161 | 162 Dewitt   | 59  | 0     | 139.9998  | 95.99989710000001   |
| 162 | 163 Onondaga | 511 | 0     | 1009.2953 | 717.0936277400001   |
| 163 | 164 Onondaga | 383 | 0     | 1026.396  | 645.5664389799999   |
| 164 | 165 Onondaga | 120 | 0     | 300.6058  | 192.7271            |
| 165 | 166 Manlius  | 106 | 0     | 238.75722 | 183.18443847999995  |
| 166 | 167 Syracuse | 126 | 0     | 322.00016 | 141.00001271999997  |
| 167 | 168 Syracuse | 19  | 0     | 44.70592  | 21.2353             |
| 168 | 169 Dewitt   | 33  | 0     | 78.375    | 52.59375            |
| 169 | 170 Syracuse | 164 | 0     | 427.50550 | 193.4831            |
| 170 | 171 Syracuse | 697 | 0     | 1573.6025 | 790.9640964299999   |
| 171 | 172 Camillus | 236 | 0     | 640.91372 | 463.6142            |



| TAZ | Town_City    | HH  | HH_GQ | pop       | veh                |
|-----|--------------|-----|-------|-----------|--------------------|
| 172 | 173 Syracuse | 236 | 0     | 563.936   | 217.992            |
| 173 | 174 Syracuse | 34  | 0     | 97.277753 | 33.055544600000005 |
| 174 | 175 Manlius  | 53  | 0     | 150.32723 | 105.03637520000001 |
| 175 | 176 Manlius  | 199 | 0     | 526.952   | 393.22399999999993 |
| 176 | 177 Syracuse | 264 | 9     | 600.824   | 389.7141           |
| 177 | 178 Manlius  | 529 | 0     | 1228.5790 | 897.5732223300001  |
| 178 | 179 Dewitt   | 339 | 4     | 843.00019 | 716.0003           |
| 179 | 180 Syracuse | 143 | 0     | 290.9653  | 156.9028           |
| 180 | 181 Syracuse | 200 | 0     | 325.37306 | 199.0049           |
| 181 | 182 Syracuse | 76  | 0     | 205.29867 | 73.03896           |
| 182 | 183 Syracuse | 33  | 0     | 88.32355  | 32.02942           |
| 183 | 184 Syracuse | 61  | 1     | 174.00011 | 61                 |
| 184 | 185 Dewitt   | 269 | 9     | 603.52897 | 411.29691120000007 |
| 185 | 186 Syracuse | 24  | 0     | 53.00003  | 42.00001439999999  |
| 186 | 187 Manlius  | 649 | 5     | 1179.1905 | 927.5705750300001  |
| 187 | 188 Manlius  | 112 | 0     | 287.0002  | 218.00011295999997 |
| 188 | 189 Syracuse | 217 | 0     | 559.42220 | 383.2339           |
| 189 | 190 Syracuse | 101 | 0     | 271.31363 | 116.8431           |
| 190 | 191 Onondaga | 380 | 0     | 897.90373 | 602.6885           |
| 191 | 192 Syracuse | 377 | 0     | 965.8758  | 674.4218221000001  |
| 192 | 193 Syracuse | 142 | 0     | 343.99990 | 248.99991100000003 |
| 193 | 194 Elbridge | 142 | 5     | 340.07954 | 266.63337160000003 |
| 194 | 195 Elbridge | 228 | 0     | 558.49538 | 426.71561388000003 |
| 195 | 196 Syracuse | 193 | 0     | 367.09816 | 303.42791447999997 |
| 196 | 197 Onondaga | 1   | 0     | 2         | 2                  |
| 197 | 198 Onondaga | 52  | 0     | 113.04355 | 79.13046960000001  |
| 198 | 199 Syracuse | 95  | 0     | 253.33326 | 112.8125           |
| 199 | 200 Syracuse | 166 | 0     | 453.00035 | 199.00015259999998 |
| 200 | 201 Syracuse | 204 | 0     | 528.88921 | 245.55573840000002 |
| 201 | 202 Manlius  | 454 | 0     | 888.7882  | 687.5721266999999  |
| 202 | 203 Syracuse | 144 | 0     | 326.731   | 161.87585760000002 |
| 203 | 204 Syracuse | 258 | 6     | 663.1366  | 245.4148           |
| 204 | 205 Syracuse | 12  | 0     | 30.545443 | 9.818180400000001  |
| 205 | 206 Syracuse | 99  | 0     | 262.9999  | 92.99997           |
| 206 | 207 Syracuse | 91  | 0     | 225.52182 | 85.06521660000001  |
| 207 | 208 Dewitt   | 585 | 4     | 1415.061  | 969.2846279999999  |
| 208 | 209 Onondaga | 328 | 0     | 600.9941  | 429.8636           |
| 209 | 210 Onondaga | 78  | 5     | 185.07405 | 118.4445           |
| 210 | 211 Syracuse | 260 | 10    | 554.94451 | 413.5055           |
| 211 | 212 Syracuse | 481 | 5     | 1160.7771 | 831.1758884000001  |
| 212 | 213 Camillus | 313 | 0     | 780.39502 | 609.1572           |
| 213 | 214 Camillus | 527 | 0     | 1431.241  | 1093.81            |
| 214 | 215 Camillus | 45  | 0     | 62.56095  | 60.365830499999994 |



| TAZ | Town_City    | HH   | HH_GQ | pop       | veh                |
|-----|--------------|------|-------|-----------|--------------------|
| 215 | 216 Onondaga | 131  | 1     | 290.20769 | 189.44618185999997 |
| 216 | 217 Syracuse | 257  | 4     | 538.5992  | 431.60315290000005 |
| 217 | 218 Syracuse | 172  | 0     | 342.0111  | 271.4217           |
| 218 | 219 Dewitt   | 124  | 0     | 337.00009 | 225                |
| 219 | 220 Dewitt   | 278  | 5     | 602.40420 | 420.94317980000005 |
| 220 | 221 Syracuse | 158  | 0     | 391.2825  | 134.7648           |
| 221 | 222 Syracuse | 157  | 0     | 440.19669 | 142.095            |
| 222 | 223 Syracuse | 119  | 21    | 304.574   | 75.1134            |
| 223 | 224 Syracuse | 57   | 0     | 142.0001  | 36.00002           |
| 224 | 225 Syracuse | 74   | 0     | 195.9999  | 47.99997           |
| 225 | 226 Manlius  | 466  | 6     | 1187.784  | 888.5591864200001  |
| 226 | 227 Syracuse | 65   | 45    | 232.90912 | 47.27272           |
| 227 | 228 Manlius  | 182  | 0     | 404.6825  | 329.74128460000003 |
| 228 | 229 Onondaga | 74   | 0     | 149.0278  | 107.9166           |
| 229 | 230 Onondaga | 132  | 0     | 258.92313 | 186.83079756000004 |
| 230 | 231 Syracuse | 307  | 0     | 796.67060 | 460.9785           |
| 231 | 232 Syracuse | 77   | 0     | 184.99987 | 62.99996           |
| 232 | 233 Syracuse | 87   | 61    | 248.0204  | 68.65307           |
| 233 | 234 Syracuse | 383  | 0     | 966.66794 | 569.4072872999999  |
| 234 | 235 Syracuse | 35   | 1     | 71        | 18.000013499999998 |
| 235 | 236 Syracuse | 50   | 0     | 137.7552  | 32.65307           |
| 236 | 237 Dewitt   | 112  | 0     | 279       | 234.00003311999998 |
| 237 | 238 Dewitt   | 157  | 0     | 357.83788 | 323.1756           |
| 238 | 239 Syracuse | 532  | 0     | 1449.8    | 1056.892           |
| 239 | 240 Geddes   | 15   | 7     | 31.54547  | 17.72728           |
| 240 | 241 Manlius  | 321  | 0     | 690.6965  | 567.4643617500001  |
| 241 | 242 Syracuse | 60   | 0     | 116.0656  | 30.49182           |
| 242 | 243 Syracuse | 38   | 0     | 104.00002 | 19.99999           |
| 243 | 244 Manlius  | 536  | 0     | 1243.113  | 967.7464295200002  |
| 244 | 245 Syracuse | 155  | 0     | 390.235   | 111.2351           |
| 245 | 246 Syracuse | 154  | 0     | 360.54142 | 106.8941           |
| 246 | 247 Syracuse | 0    | 0     | 0         | 0                  |
| 247 | 248 Syracuse | 83   | 0     | 291.48828 | 72.13097           |
| 248 | 249 Syracuse | 273  | 16    | 607.6492  | 243.46231181999997 |
| 249 | 250 Syracuse | 205  | 0     | 519.9996  | 200.9998           |
| 250 | 251 Syracuse | 148  | 0     | 387.38289 | 127.141            |
| 251 | 252 Syracuse | 84   | 1     | 246.0823  | 76.09405           |
| 252 | 253 Syracuse | 139  | 7     | 321.17797 | 238.9657           |
| 253 | 254 Dewitt   | 126  | 9     | 288.68207 | 189.95473979999997 |
| 254 | 255 Dewitt   | 272  | 4     | 696.4537  | 449.3476           |
| 255 | 256 Camillus | 1291 | 4     | 2778.36   | 2168.523           |
| 256 | 257 Camillus | 791  | 0     | 1935.0900 | 1395.5920303500002 |
| 257 | 258 Geddes   | 459  | 0     | 1004.1257 | 746.7615034199999  |



| TAZ | Town_City    | HH  | HH_GQ | pop       | veh                |
|-----|--------------|-----|-------|-----------|--------------------|
| 258 | 259 Geddes   | 1   | 0     | 2         | 2                  |
| 259 | 260 Syracuse | 65  | 5     | 111.7856  | 88.21422350000002  |
| 260 | 261 Syracuse | 492 | 0     | 1091.345  | 669.9148           |
| 261 | 262 Syracuse | 107 | 0     | 307.87698 | 82.77361           |
| 262 | 263 Syracuse | 121 | 11    | 343.9778  | 93.70680440000001  |
| 263 | 264 Camillus | 161 | 0     | 316.937   | 201.503            |
| 264 | 265 Camillus | 264 | 0     | 573.3434  | 357.71             |
| 265 | 266 Camillus | 167 | 7     | 329.41614 | 207.54328304999999 |
| 266 | 267 Camillus | 575 | 4     | 1300.454  | 947.5216           |
| 267 | 268 Geddes   | 503 | 0     | 1180.0004 | 841.0003617299999  |
| 268 | 269 Syracuse | 1   | 0     | 1         | 0                  |
| 269 | 270 Syracuse | 0   | 0     | 0         | 0                  |
| 270 | 271 Syracuse | 395 | 2     | 1016.3672 | 388.4009           |
| 271 | 272 Syracuse | 181 | 38    | 400.76057 | 105.7101           |
| 272 | 273 Syracuse | 4   | 51    | 64        | 2.071429           |
| 273 | 274 Syracuse | 275 | 49    | 559.0294  | 81.54074499999999  |
| 274 | 275 Camillus | 62  | 0     | 133.8412  | 102.3492           |
| 275 | 276 Syracuse | 264 | 0     | 600.72376 | 458.2637           |
| 276 | 277 Syracuse | 178 | 4     | 351.2458  | 284.0218           |
| 277 | 278 Syracuse | 85  | 0     | 173.95329 | 135.40681899999998 |
| 278 | 279 Syracuse | 0   | 701   | 701       | 0                  |
| 279 | 280 Syracuse | 1   | 705   | 707.7246  | 1.651198           |
| 280 | 281 Syracuse | 311 | 20    | 723.8415  | 212.78922913999997 |
| 281 | 282 Syracuse | 0   | 0     | 0         | 0                  |
| 282 | 283 Syracuse | 273 | 37    | 789.59439 | 555.2229           |
| 283 | 284 Syracuse | 141 | 697   | 1010.775  | 142.9859           |
| 284 | 285 Syracuse | 253 | 6     | 670.3592  | 383.24802296000007 |
| 285 | 286 Syracuse | 192 | 0     | 435.99985 | 266.9998           |
| 286 | 287 Elbridge | 266 | 0     | 669.73109 | 505.71534299999996 |
| 287 | 288 Elbridge | 224 | 4     | 538.77495 | 416.72077440000004 |
| 288 | 289 Elbridge | 228 | 0     | 560.1101  | 429.97294727999997 |
| 289 | 290 Syracuse | 146 | 46    | 458.01045 | 113.89521319999999 |
| 290 | 291 Geddes   | 420 | 8     | 892.15905 | 605.4674009999999  |
| 291 | 292 Syracuse | 12  | 0     | 25.000010 | 2.9999988000000006 |
| 292 | 293 Syracuse | 0   | 0     | 0         | 0                  |
| 293 | 294 Syracuse | 29  | 0     | 61.99996  | 46.999975199999994 |
| 294 | 295 Syracuse | 271 | 0     | 550       | 443                |
| 295 | 296 Syracuse | 336 | 0     | 810.58736 | 487.5489           |
| 296 | 297 Geddes   | 450 | 0     | 1003.612  | 688.7137           |
| 297 | 298 Syracuse | 0   | 465   | 465       | 0                  |
| 298 | 299 Syracuse | 0   | 64    | 64        | 0                  |
| 299 | 300 Dewitt   | 310 | 0     | 709.71106 | 461.5115979000001  |
| 300 | 301 Syracuse | 605 | 1     | 956.0472  | 164.7763           |



| TAZ | Town_City    | HH  | HH_GQ | pop       | veh                |
|-----|--------------|-----|-------|-----------|--------------------|
| 301 | 302 Syracuse | 70  | 0     | 229.9999  | 38.99997499999999  |
| 302 | 303 Syracuse | 0   | 0     | 0         | 0                  |
| 303 | 304 Syracuse | 41  | 0     | 69.99992  | 11.999970200000002 |
| 304 | 305 Syracuse | 47  | 0     | 101.1522  | 18.39132           |
| 305 | 306 Syracuse | 21  | 0     | 56.31824  | 10.50001           |
| 306 | 307 Syracuse | 18  | 40    | 63.99999  | 5.999990400000001  |
| 307 | 308 Syracuse | 0   | 0     | 0         | 0                  |
| 308 | 309 Syracuse | 0   | 75    | 75        | 0                  |
| 309 | 310 Syracuse | 1   | 0     | 1         | 0                  |
| 310 | 311 Syracuse | 412 | 7     | 937.66976 | 708.5224152000001  |
| 311 | 312 Syracuse | 0   | 0     | 0         | 0                  |
| 312 | 313 Syracuse | 0   | 0     | 0         | 0                  |
| 313 | 314 Syracuse | 0   | 109   | 109       | 0                  |
| 314 | 315 Syracuse | 0   | 0     | 0         | 0                  |
| 315 | 316 Syracuse | 0   | 0     | 0         | 0                  |
| 316 | 317 Syracuse | 30  | 231   | 291       | 39.382701000000004 |
| 317 | 318 Syracuse | 6   | 274   | 286.9961  | 7.969105           |
| 318 | 319 Syracuse | 0   | 0     | 0         | 0                  |
| 319 | 320 Syracuse | 185 | 0     | 485.85884 | 90.63137           |
| 320 | 321 Syracuse | 72  | 0     | 181       | 35.000006400000004 |
| 321 | 322 Syracuse | 62  | 0     | 172.9999  | 31.99999           |
| 322 | 323 Syracuse | 92  | 0     | 246.3227  | 50.45164           |
| 323 | 324 Manlius  | 288 | 0     | 709.3338  | 538.6671359999999  |
| 324 | 325 Manlius  | 183 | 0     | 376.68639 | 309.8981           |
| 325 | 326 Syracuse | 0   | 91    | 91        | 0                  |
| 326 | 327 Syracuse | 61  | 70    | 199.45045 | 78.22904740000001  |
| 327 | 328 Syracuse | 0   | 503   | 503       | 0                  |
| 328 | 329 Syracuse | 0   | 226   | 226       | 0                  |
| 329 | 330 Syracuse | 122 | 0     | 296.5689  | 177.5447           |
| 330 | 331 Syracuse | 85  | 0     | 204.40484 | 124.46436100000001 |
| 331 | 332 Dewitt   | 234 | 0     | 517.2101  | 337.442            |
| 332 | 333 Dewitt   | 130 | 10    | 244.00007 | 160.6429           |
| 333 | 334 Camillus | 603 | 4     | 1217.8950 | 931.6398           |
| 334 | 335 Syracuse | 167 | 0     | 397.8529  | 161.10595210000002 |
| 335 | 336 Syracuse | 203 | 0     | 504.19540 | 195.44665419999995 |
| 336 | 337 Syracuse | 0   | 5     | 5         | 0                  |
| 337 | 338 Syracuse | 0   | 3     | 3         | 0                  |
| 338 | 339 Syracuse | 166 | 0     | 168.47753 | 121.4029           |
| 339 | 340 Syracuse | 100 | 0     | 0         | 0                  |
| 340 | 341 Syracuse | 0   | 0     | 0         | 0                  |
| 341 | 342 Syracuse | 0   | 0     | 0         | 0                  |
| 342 | 343 Syracuse | 394 | 0     | 440.47184 | 299.0361           |
| 343 | 344 Syracuse | 0   | 5     | 5         | 0                  |



| TAZ | Town_City    | HH   | HH_GQ | pop       | veh                |
|-----|--------------|------|-------|-----------|--------------------|
| 344 | 345 Syracuse | 135  | 0     | 271.9709  | 165.54755835000003 |
| 345 | 346 Syracuse | 0    | 69    | 69        | 0                  |
| 346 | 347 Syracuse | 207  | 2     | 453.81711 | 348.3172           |
| 347 | 348 Syracuse | 222  | 0     | 366.5584  | 316.6514           |
| 348 | 349 Geddes   | 212  | 0     | 506.9994  | 361.99960783999995 |
| 349 | 350 Camillus | 505  | 0     | 1207.474  | 871.1504           |
| 350 | 351 Manlius  | 433  | 0     | 1072.788  | 815.7301           |
| 351 | 352 Manlius  | 57   | 5     | 137.6724  | 106.13793869999998 |
| 352 | 353 Syracuse | 298  | 53    | 617.589   | 127.25395660000001 |
| 353 | 354 Syracuse | 77   | 0     | 194.47434 | 40.474341599999995 |
| 354 | 355 Syracuse | 61   | 0     | 0         | 0                  |
| 355 | 356 Syracuse | 0    | 0     | 0         | 0                  |
| 356 | 357 Geddes   | 385  | 0     | 939.07446 | 658.9815232000001  |
| 357 | 358 Syracuse | 143  | 10    | 359.55563 | 127.11102689999997 |
| 358 | 359 Syracuse | 141  | 0     | 284.00000 | 121.00002420000001 |
| 359 | 360 Syracuse | 60   | 0     | 106.00003 | 47.00003           |
| 360 | 361 Syracuse | 5    | 0     | 12        | 9                  |
| 361 | 362 Syracuse | 178  | 2     | 314.4887  | 227.4443           |
| 362 | 363 Syracuse | 247  | 1     | 512.09998 | 349.59997150000004 |
| 363 | 364 Syracuse | 234  | 1     | 417.6583  | 348.5316978000001  |
| 364 | 365 Syracuse | 133  | 24    | 309.60889 | 221.6666           |
| 365 | 366 Geddes   | 202  | 0     | 417.5267  | 295.78564474000007 |
| 366 | 367 Geddes   | 187  | 0     | 446.9998  | 298.9999           |
| 367 | 368 Syracuse | 59   | 0     | 116.9828  | 79.34486969999998  |
| 368 | 369 Syracuse | 483  | 0     | 993.9417  | 685.5801           |
| 369 | 370 Syracuse | 297  | 0     | 593.99967 | 414.99967409999994 |
| 370 | 371 Syracuse | 0    | 0     | 0         | 0                  |
| 371 | 372 Syracuse | 1055 | 139   | 1625.5346 | 741.3855727000001  |
| 372 | 373 Syracuse | 0    | 139   | 139       | 0                  |
| 373 | 374 Syracuse | 0    | 294   | 294       | 0                  |
| 374 | 375 Syracuse | 0    | 0     | 0         | 0                  |
| 375 | 376 Syracuse | 29   | 0     | 0         | 0                  |
| 376 | 377 Syracuse | 101  | 0     | 101       | 101                |
| 377 | 378 Syracuse | 0    | 190   | 190       | 0                  |
| 378 | 379 Syracuse | 0    | 24    | 24        | 0                  |
| 379 | 380 Syracuse | 0    | 0     | 0         | 0                  |
| 380 | 381 Syracuse | 0    | 0     | 0         | 0                  |
| 381 | 382 Syracuse | 0    | 0     | 0         | 0                  |
| 382 | 383 Geddes   | 170  | 4     | 379.00011 | 276.0001           |
| 383 | 384 Syracuse | 108  | 0     | 280       | 54.99998           |
| 384 | 385 Syracuse | 182  | 0     | 443.33336 | 87.73341           |
| 385 | 386 Dewitt   | 160  | 4     | 397.1707  | 248.78041280000002 |
| 386 | 387 Dewitt   | 113  | 0     | 245.16967 | 159.4107           |



| TAZ | Town_City    | HH   | HH_GQ | pop         | veh                |
|-----|--------------|------|-------|-------------|--------------------|
| 387 | 388 Syracuse | 153  | 0     | 272.6182    | 155.7818           |
| 388 | 389 Syracuse | 189  | 0     | 464         | 202.99996710000002 |
| 389 | 390 Syracuse | 145  | 0     | 209.00002   | 143                |
| 390 | 391 Syracuse | 188  | 10    | 377.08998   | 193.3459           |
| 391 | 392 Syracuse | 39   | 0     | 73.125000   | 39                 |
| 392 | 393 Camillus | 28   | 0     | 50.81478    | 40.444412400000004 |
| 393 | 394 Camillus | 384  | 3     | 911.36512   | 664.731            |
| 394 | 395 Syracuse | 0    | 0     | 0           | 0                  |
| 395 | 396 Syracuse | 145  | 0     | 172.8847    | 91.08975           |
| 396 | 397 Syracuse | 184  | 0     | 219.81221   | 108.6712           |
| 397 | 398 Camillus | 1302 | 4     | 2791.3242   | 1969.2628783799998 |
| 398 | 399 Syracuse | 456  | 3     | 1166.689    | 484.62357599999996 |
| 399 | 400 Syracuse | 119  | 4     | 220.7154592 | 87800535999997     |
| 400 | 401 Syracuse | 21   | 0     | 48.681851   | 20.045472300000004 |
| 401 | 402 Camillus | 634  | 4     | 1419.629    | 1060.863           |
| 402 | 403 Syracuse | 0    | 0     | 0           | 0                  |
| 403 | 404 Syracuse | 132  | 0     | 296.2668    | 220.97774687999998 |
| 404 | 405 Syracuse | 229  | 0     | 343.50000   | 183.20000000000002 |
| 405 | 406 Syracuse | 66   | 0     | 124.8923681 | 23081339999999     |
| 406 | 407 Syracuse | 213  | 2     | 434.90292   | 278.08347060000006 |
| 407 | 408 Syracuse | 0    | 3     | 3           | 0                  |
| 408 | 409 Syracuse | 0    | 3     | 3           | 0                  |
| 409 | 410 Syracuse | 212  | 0     | 282.147     | 149.6471           |
| 410 | 411 Syracuse | 0    | 0     | 0           | 0                  |
| 411 | 412 Syracuse | 140  | 105   | 253.1159    | 73.04352           |
| 412 | 413 Syracuse | 0    | 0     | 0           | 0                  |
| 413 | 414 Syracuse | 116  | 0     | 116         | 59.870987199999995 |
| 414 | 415 Syracuse | 139  | 0     | 139.00005   | 70.49284920000001  |
| 415 | 416 Camillus | 331  | 0     | 744.99695   | 511.8147           |
| 416 | 417 Syracuse | 27   | 0     | 38.999966   | 19.99998           |
| 417 | 418 Syracuse | 0    | 0     | 0           | 0                  |
| 418 | 419 Syracuse | 0    | 0     | 0           | 0                  |
| 419 | 420 Syracuse | 0    | 0     | 0           | 0                  |
| 420 | 421 Syracuse | 387  | 1     | 898.0462    | 525.9232089000001  |
| 421 | 422 Syracuse | 0    | 1     | 1           | 0                  |
| 422 | 423 Syracuse | 0    | 0     | 0           | 0                  |
| 423 | 424 Syracuse | 299  | 0     | 0           | 0                  |
| 424 | 425 Syracuse | 133  | 0     | 164.2942    | 125.17651440000002 |
| 425 | 426 Syracuse | 0    | 0     | 0           | 0                  |
| 426 | 427 Syracuse | 4    | 0     | 7           | 4                  |
| 427 | 428 Syracuse | 28   | 0     | 71.448266   | 29.931028399999995 |
| 428 | 429 Syracuse | 191  | 0     | 473.9995    | 189.99980939999998 |
| 429 | 430 Syracuse | 136  | 0     | 277.78718   | 130.2127           |



| TAZ | Town_City    | HH  | HH_GQ | pop       | veh                |
|-----|--------------|-----|-------|-----------|--------------------|
| 430 | 431 Syracuse | 0   | 3     | 3         | 0                  |
| 431 | 432 Syracuse | 35  | 0     | 86.52779  | 35.97223           |
| 432 | 433 Syracuse | 15  | 0     | 38        | 14                 |
| 433 | 434 Syracuse | 177 | 0     | 341.35729 | 155.3266           |
| 434 | 435 Syracuse | 5   | 0     | 8         | 5                  |
| 435 | 436 Syracuse | 0   | 0     | 0         | 0                  |
| 436 | 437 Syracuse | 0   | 0     | 0         | 0                  |
| 437 | 438 Syracuse | 0   | 2     | 2         | 0                  |
| 438 | 439 Syracuse | 82  | 0     | 152       | 99.00003499999998  |
| 439 | 440 Syracuse | 206 | 0     | 412.9953  | 264.7151           |
| 440 | 441 Geddes   | 110 | 0     | 159.5495  | 124.86478730000002 |
| 441 | 442 Syracuse | 417 | 63    | 976.0022  | 406.412            |
| 442 | 443 Syracuse | 428 | 3     | 1001.9917 | 418.27298096000004 |
| 443 | 444 Camillus | 238 | 0     | 523.9996  | 390.99974227999996 |
| 444 | 445 Syracuse | 0   | 0     | 0         | 0                  |
| 445 | 446 Dewitt   | 24  | 0     | 61.71427  | 39.99999           |
| 446 | 447 Geddes   | 200 | 0     | 483.417   | 344.7235           |
| 447 | 448 Geddes   | 137 | 7     | 278.12571 | 205.97887527999998 |
| 448 | 449 Syracuse | 49  | 0     | 110.25    | 42.875             |
| 449 | 450 Manlius  | 593 | 0     | 1436.3306 | 1116.234           |
| 450 | 451 Geddes   | 835 | 5     | 1714.809  | 1224.1352504000001 |
| 451 | 452 Manlius  | 666 | 0     | 1296.3216 | 1117.929           |
| 452 | 453 Syracuse | 2   | 0     | 2         | 1                  |
| 453 | 454 Syracuse | 135 | 0     | 181.7309  | 83.07695           |
| 454 | 455 Syracuse | 6   | 0     | 11.142845 | 5.1428519999999995 |
| 455 | 456 Syracuse | 3   | 0     | 3         | 2.000001           |
| 456 | 457 Syracuse | 29  | 0     | 39.03844  | 22.30769           |
| 457 | 458 Syracuse | 95  | 0     | 151.59581 | 108.13831949999997 |
| 458 | 459 Syracuse | 262 | 0     | 478.76239 | 320.43160680000005 |
| 459 | 460 Syracuse | 175 | 0     | 217.16889 | 108.58445499999999 |
| 460 | 461 Syracuse | 0   | 0     | 0         | 0                  |
| 461 | 462 Syracuse | 0   | 0     | 0         | 0                  |
| 462 | 463 Syracuse | 0   | 0     | 0         | 0                  |
| 463 | 464 Syracuse | 212 | 0     | 260.45705 | 139.3142           |
| 464 | 465 Syracuse | 8   | 0     | 17.14284  | 10.285703999999999 |
| 465 | 466 Syracuse | 198 | 2     | 308.45230 | 125.3668           |
| 466 | 467 Syracuse | 0   | 0     | 0         | 0                  |
| 467 | 468 Syracuse | 154 | 0     | 178.20000 | 69.29996           |
| 468 | 469 Syracuse | 127 | 0     | 187.05436 | 66.94576146000001  |
| 469 | 470 Syracuse | 184 | 8     | 258.1252  | 94.87507360000001  |
| 470 | 471 Syracuse | 188 | 0     | 374.01049 | 125.3333           |
| 471 | 472 Syracuse | 305 | 0     | 791.4059  | 221.2747           |
| 472 | 473 Dewitt   | 311 | 152   | 767.2973  | 398.8039           |



| TAZ | Town_City    | HH  | HH_GQ | pop       | veh                |
|-----|--------------|-----|-------|-----------|--------------------|
| 473 | 474 Dewitt   | 363 | 0     | 710.0871  | 467.4242           |
| 474 | 475 Syracuse | 430 | 2     | 963.52793 | 482.7544           |
| 475 | 476 Syracuse | 41  | 0     | 79.99995  | 35.99998           |
| 476 | 477 Syracuse | 37  | 0     | 75.02773  | 32.88887           |
| 477 | 478 Syracuse | 15  | 0     | 33.00002  | 16.000009499999997 |
| 478 | 479 Syracuse | 33  | 0     | 67.03125  | 29.90625           |
| 479 | 480 Syracuse | 173 | 12    | 387.82731 | 166.1823           |
| 480 | 481 Syracuse | 96  | 0     | 173.33335 | 84.44443584000001  |
| 481 | 482 Syracuse | 302 | 0     | 670.89849 | 287.66464587999997 |
| 482 | 483 Syracuse | 281 | 0     | 623.9154  | 272.4271           |
| 483 | 484 Dewitt   | 0   | 1     | 1         | 0                  |
| 484 | 485 Dewitt   | 0   | 0     | 0         | 0                  |
| 485 | 486 Syracuse | 169 | 0     | 390.37989 | 246.0876           |
| 486 | 487 Elbridge | 491 | 0     | 1116.8900 | 892.4328           |
| 487 | 488 Elbridge | 336 | 4     | 820.59424 | 638.7119390400001  |
| 488 | 489 Syracuse | 113 | 0     | 158.40166 | 60.53566           |
| 489 | 490 Syracuse | 328 | 0     | 691.8906  | 225.3132           |
| 490 | 491 Syracuse | 398 | 29    | 590.49785 | 232.63403276000003 |
| 491 | 492 Syracuse | 330 | 10    | 412.5804  | 174.19343700000002 |
| 492 | 493 Syracuse | 0   | 0     | 0         | 0                  |
| 493 | 494 Syracuse | 269 | 0     | 402.60931 | 361.63601958000004 |
| 494 | 495 Syracuse | 65  | 0     | 132.0313  | 87.34375           |
| 495 | 496 Syracuse | 286 | 0     | 650.4511  | 274.0833           |
| 496 | 497 Syracuse | 143 | 1     | 309.683   | 141.0277           |
| 497 | 498 Syracuse | 222 | 0     | 251.86535 | 115.47970026000002 |
| 498 | 499 Syracuse | 175 | 5     | 287.7681  | 112.71172500000003 |
| 499 | 500 Syracuse | 579 | 4     | 1138.286  | 734.1242           |
| 500 | 501 Syracuse | 0   | 0     | 0         | 0                  |
| 501 | 502 Geddes   | 627 | 0     | 1407.289  | 973.1364221700001  |
| 502 | 503 Syracuse | 45  | 0     | 63.409067 | 25.568180999999996 |
| 503 | 504 Syracuse | 250 | 52    | 672.96646 | 198.68007500000002 |
| 504 | 505 Geddes   | 727 | 1     | 1571.125  | 1088.061           |
| 505 | 506 Camillus | 195 | 0     | 390.00017 | 301.55751210000005 |
| 506 | 507 Syracuse | 0   | 0     | 0         | 0                  |
| 507 | 508 Syracuse | 287 | 0     | 331.68259 | 309.34125670000003 |
| 508 | 509 Syracuse | 90  | 0     | 189.23071 | 143.0768           |
| 509 | 510 Syracuse | 338 | 105   | 531.3763  | 181.4037           |
| 510 | 511 Syracuse | 111 | 0     | 170.99985 | 69.99994           |
| 511 | 512 Syracuse | 363 | 0     | 747.8798  | 503.2277           |
| 512 | 513 Dewitt   | 15  | 0     | 30.00001  | 17.142864000000003 |
| 513 | 514 Syracuse | 566 | 0     | 1238.4362 | 646.5732129999999  |
| 514 | 515 Syracuse | 103 | 0     | 178.99996 | 77.00003           |
| 515 | 516 Geddes   | 0   | 0     | 0         | 0                  |



| TAZ  | Town_City     | HH  | HH_GQ | pop       | veh                 |
|------|---------------|-----|-------|-----------|---------------------|
| 516  | 517 Geddes    | 471 | 0     | 1038.971  | 659.9937331799999   |
| 517  | 518 Syracuse  | 0   | 0     | 0         | 0                   |
| 518  | 519 Dewitt    | 85  | 0     | 179.1074  | 112.3216            |
| 519  | 520 Syracuse  | 396 | 0     | 678.8568  | 504.18034524000007  |
| 520  | 521 Dewitt    | 0   | 0     | 0         | 0                   |
| 521  | 522 Syracuse  | 276 | 104   | 730.22901 | 212.56725119999996  |
| 522  | 523 Syracuse  | 333 | 0     | 917.73205 | 207.1337            |
| 523  | 524 Syracuse  | 587 | 9     | 1405.262  | 362.8381            |
| 524  | 525 Syracuse  | 483 | 0     | 1054.4497 | 679.7772            |
| 1108 | 1114 Camillus | 280 | 0     | 733.9393  | 506.96950080000005  |
| 1107 | 1113 Camillus | 160 | 0     | 414.4101  | 290.18637119999994  |
| 525  | 527 Syracuse  | 363 | 0     | 920.82487 | 304.185             |
| 526  | 528 Syracuse  | 479 | 0     | 966.9814  | 666.6084882099998   |
| 527  | 529 Syracuse  | 260 | 0     | 567.8162  | 380.53649920000004  |
| 528  | 530 Syracuse  | 0   | 0     | 0         | 0                   |
| 529  | 531 Syracuse  | 0   | 1     | 1         | 0                   |
| 530  | 532 Syracuse  | 402 | 0     | 920.8288  | 318.2884            |
| 531  | 533 Manlius   | 728 | 5     | 1765.5628 | 1279.1589719999997  |
| 532  | 534 Syracuse  | 299 | 0     | 0         | 0                   |
| 533  | 535 Syracuse  | 276 | 0     | 576.81992 | 392.158210080000006 |
| 534  | 536 Dewitt    | 0   | 6     | 6         | 0                   |
| 535  | 537 Syracuse  | 345 | 2     | 762.59055 | 504.0776369999999   |
| 536  | 538 Syracuse  | 274 | 0     | 648.9475  | 217.21714419999998  |
| 537  | 539 Syracuse  | 206 | 0     | 560.3202  | 177.617789680000002 |
| 538  | 540 Syracuse  | 300 | 0     | 689.4043  | 504.6358409999999   |
| 539  | 541 Syracuse  | 104 | 0     | 243.3208  | 177.5849            |
| 540  | 542 Syracuse  | 444 | 0     | 934.5812  | 648.1611766799999   |
| 541  | 543 Dewitt    | 499 | 0     | 1063.606  | 640.1515            |
| 542  | 544 Syracuse  | 357 | 4     | 709.1245  | 492.10774598999996  |
| 543  | 545 Syracuse  | 348 | 0     | 817.61235 | 394.7742            |
| 544  | 546 Syracuse  | 0   | 0     | 0         | 0                   |
| 545  | 547 Syracuse  | 371 | 0     | 701.22059 | 480.4106            |
| 546  | 548 Dewitt    | 318 | 0     | 686.9997  | 411.999814200000006 |
| 547  | 549 Dewitt    | 439 | 2     | 929.54874 | 562.8715            |
| 548  | 550 Geddes    | 108 | 0     | 218.9188  | 175.135046400000002 |
| 549  | 551 Syracuse  | 186 | 0     | 390.41561 | 139.9604            |
| 550  | 552 Syracuse  | 290 | 0     | 721.7151  | 320.9708            |
| 551  | 553 Syracuse  | 328 | 35    | 734.25283 | 473.0771            |
| 552  | 554 Syracuse  | 406 | 3     | 942.10279 | 326.445769720000004 |
| 553  | 555 Camillus  | 485 | 8     | 1056.413  | 797.2006691999999   |
| 554  | 556 Camillus  | 377 | 0     | 968.6622  | 763.3917            |
| 555  | 557 Camillus  | 194 | 0     | 415.9045  | 340.1646            |
| 556  | 558 Syracuse  | 411 | 1     | 927.2391  | 682.02175974000001  |



| TAZ | Town_City    | HH  | HH_GQ | pop       | veh                |
|-----|--------------|-----|-------|-----------|--------------------|
| 557 | 559 Geddes   | 0   | 0     | 0         | 0                  |
| 558 | 560 Manlius  | 172 | 0     | 397.45916 | 314.9458           |
| 559 | 561 Syracuse | 362 | 0     | 881.4321  | 292.2397           |
| 560 | 562 Manlius  | 579 | 0     | 1431.9913 | 1016.696           |
| 561 | 563 Syracuse | 623 | 0     | 1406.9909 | 693.4929           |
| 562 | 564 Syracuse | 232 | 0     | 495.17765 | 277.8497           |
| 563 | 565 Syracuse | 310 | 0     | 540.00029 | 439.0001543000001  |
| 564 | 566 Syracuse | 269 | 0     | 571.7483  | 431.7891           |
| 565 | 567 Syracuse | 319 | 0     | 793.21522 | 355.1853           |
| 566 | 568 Elbridge | 81  | 0     | 201.4343  | 158.8027           |
| 567 | 569 Elbridge | 216 | 0     | 428.85436 | 354.4077672000001  |
| 568 | 570 Syracuse | 574 | 0     | 870.4099  | 549.5345644600002  |
| 569 | 571 Syracuse | 541 | 0     | 1112.943  | 624.8448778900001  |
| 570 | 572 Syracuse | 576 | 11    | 1136.861  | 433.1671           |
| 571 | 573 Dewitt   | 302 | 9     | 708.56905 | 484.53753686000005 |
| 572 | 574 Syracuse | 409 | 15    | 736.99022 | 430.12178250000005 |
| 573 | 575 Syracuse | 373 | 7     | 854.81067 | 471.1086           |
| 574 | 576 Dewitt   | 329 | 0     | 733.0867  | 518.6934480699999  |
| 575 | 577 Syracuse | 125 | 0     | 300.7815  | 175.7813           |
| 576 | 578 Syracuse | 107 | 0     | 255       | 147.99999250000002 |
| 577 | 579 Syracuse | 483 | 0     | 1026.612  | 575.812            |
| 578 | 580 Syracuse | 0   | 0     | 0         | 0                  |
| 579 | 581 Syracuse | 0   | 2     | 2         | 0                  |
| 580 | 582 Syracuse | 119 | 0     | 275.9997  | 153.9998           |
| 581 | 583 Syracuse | 161 | 0     | 343.5976  | 196.3414           |
| 582 | 584 Syracuse | 348 | 81    | 832.55248 | 468.6829           |
| 583 | 585 Dewitt   | 1   | 0     | 1         | 1                  |
| 584 | 586 Dewitt   | 2   | 0     | 4         | 3                  |
| 585 | 587 Syracuse | 42  | 4     | 90.7392   | 57.521801399999994 |
| 586 | 588 Syracuse | 81  | 0     | 201.5121  | 116.5609           |
| 587 | 589 Syracuse | 53  | 0     | 128.4231  | 67.2693            |
| 588 | 590 Syracuse | 242 | 3     | 549.84480 | 303.90684280000005 |
| 589 | 591 Syracuse | 250 | 0     | 499.99959 | 328.413            |
| 590 | 592 Salina   | 692 | 3     | 1406.97   | 917.6732615599999  |
| 591 | 593 Dewitt   | 477 | 0     | 773.24162 | 622.6101           |
| 592 | 594 Dewitt   | 374 | 7     | 859.3261  | 617.0997905600001  |
| 593 | 595 Manlius  | 660 | 0     | 1380.1821 | 1052.1884340000001 |
| 594 | 596 Dewitt   | 199 | 0     | 400.01986 | 288.9032           |
| 595 | 597 Syracuse | 94  | 0     | 207.78945 | 119.72628660000001 |
| 596 | 598 Syracuse | 101 | 0     | 224.22    | 123.22             |
| 597 | 599 Dewitt   | 74  | 0     | 126.71234 | 95.28768           |
| 598 | 600 Syracuse | 316 | 0     | 649.3415  | 422.9390831200001  |
| 599 | 601 Syracuse | 231 | 6     | 530.3797  | 323.59494551999995 |



| TAZ  | Town_City     | HH  | HH_GQ | pop       | veh                |
|------|---------------|-----|-------|-----------|--------------------|
| 600  | 602 Syracuse  | 88  | 0     | 177.0002  | 114.00008399999999 |
| 601  | 603 Syracuse  | 243 | 9     | 548.57434 | 327.1888           |
| 602  | 604 Syracuse  | 285 | 11    | 637.08009 | 383.3709           |
| 603  | 605 Salina    | 88  | 0     | 181.67748 | 118.27963840000001 |
| 604  | 606 Salina    | 573 | 0     | 1267.423  | 796.7805201600002  |
| 605  | 607 Dewitt    | 52  | 0     | 100.0754  | 75.54712           |
| 606  | 608 Salina    | 0   | 0     | 0         | 0                  |
| 607  | 609 Salina    | 5   | 0     | 5         | 5                  |
| 608  | 610 Dewitt    | 6   | 0     | 6         | 6                  |
| 609  | 611 Dewitt    | 78  | 0     | 195.0001  | 135.5715           |
| 610  | 612 Camillus  | 94  | 6     | 239.0142  | 188.0001           |
| 611  | 613 Camillus  | 71  | 0     | 198.2641  | 150.03767570000002 |
| 612  | 614 Camillus  | 264 | 0     | 620.4852  | 524.6380814400002  |
| 613  | 615 Camillus  | 396 | 0     | 1098.0009 | 829.1255           |
| 614  | 616 Dewitt    | 653 | 0     | 1516.001  | 1077               |
| 615  | 617 Van Buren | 20  | 0     | 51.11114  | 36.66668           |
| 616  | 618 Van Buren | 69  | 0     | 175.0747  | 136.97025089999997 |
| 617  | 619 Salina    | 59  | 0     | 115.9655  | 75.27588159999999  |
| 618  | 620 Salina    | 0   | 0     | 0         | 0                  |
| 619  | 621 Dewitt    | 1   | 0     | 4         | 2                  |
| 620  | 622 Dewitt    | 0   | 0     | 0         | 0                  |
| 621  | 623 Manlius   | 489 | 0     | 1222.997  | 881.7878           |
| 622  | 624 Manlius   | 67  | 0     | 156.33323 | 116.1333           |
| 623  | 625 Manlius   | 72  | 0     | 166.62849 | 122.39998560000001 |
| 624  | 626 Manlius   | 287 | 0     | 706.1583  | 541.4537408000001  |
| 625  | 627 Salina    | 793 | 0     | 1454.3312 | 957.5846124000001  |
| 626  | 628 Salina    | 396 | 0     | 880.67178 | 553.1909           |
| 1097 | 1103 Salina   | 0   | 0     | 0         | 0                  |
| 1096 | 1102 Salina   | 0   | 0     | 0         | 0                  |
| 1098 | 1104 Salina   | 290 | 0     | 661.9997  | 398.9998           |
| 627  | 630 Salina    | 0   | 0     | 0         | 0                  |
| 628  | 631 Dewitt    | 13  | 0     | 22.99999  | 15.99999           |
| 629  | 632 Dewitt    | 40  | 0     | 91.282000 | 65.64098           |
| 630  | 633 Salina    | 17  | 0     | 38.25     | 23.375             |
| 631  | 634 Salina    | 0   | 0     | 0         | 0                  |
| 632  | 635 Salina    | 72  | 0     | 171.77151 | 102.8572           |
| 633  | 636 Van Buren | 63  | 0     | 171.15017 | 128.10009870000002 |
| 634  | 637 Salina    | 473 | 0     | 1051.332  | 643.9156930800001  |
| 635  | 638 Dewitt    | 9   | 0     | 24.999974 | 13.99999           |
| 636  | 639 Geddes    | 403 | 0     | 966.38846 | 719.7157           |
| 637  | 640 Salina    | 249 | 0     | 501.98400 | 318.71999999999997 |
| 638  | 641 Sullivan  | 172 | 0     | 364.16534 | 310.7861           |
| 639  | 642 Geddes    | 443 | 1     | 1015.1578 | 778.0251734999999  |



| TAZ | Town_City     | HH   | HH_GQ | pop       | veh                |
|-----|---------------|------|-------|-----------|--------------------|
| 640 | 643 Sullivan  | 105  | 0     | 262.4999  | 208.7499           |
| 641 | 644 Dewitt    | 0    | 15    | 15        | 0                  |
| 642 | 645 Salina    | 78   | 0     | 188.0002  | 110.00007719999999 |
| 643 | 646 Salina    | 531  | 0     | 1188.049  | 717.5935380599999  |
| 644 | 647 Salina    | 18   | 0     | 46.42104  | 24.63157           |
| 645 | 648 Salina    | 236  | 0     | 505.00008 | 311                |
| 646 | 649 Salina    | 4    | 0     | 10        | 7                  |
| 647 | 650 Dewitt    | 246  | 0     | 653.35522 | 440.4197           |
| 648 | 651 Dewitt    | 29   | 0     | 54.000032 | 41.00003           |
| 649 | 652 Salina    | 36   | 0     | 84.34297  | 54.51436439999999  |
| 650 | 653 Van Buren | 23   | 0     | 57.50005  | 46.00005           |
| 651 | 654 Salina    | 493  | 0     | 992.036   | 712.3341273299999  |
| 652 | 655 Salina    | 600  | 0     | 1387.748  | 832.4497739999999  |
| 653 | 656 Elbridge  | 272  | 0     | 675.54087 | 513.9018           |
| 654 | 657 Salina    | 306  | 2     | 525.1618  | 394.839            |
| 655 | 658 Salina    | 416  | 0     | 896.689   | 661.8180607999999  |
| 656 | 659 Sullivan  | 77   | 0     | 157.3     | 133.1              |
| 657 | 660 Sullivan  | 210  | 0     | 407.5     | 365                |
| 658 | 661 Salina    | 0    | 2     | 2         | 0                  |
| 659 | 662 Salina    | 55   | 0     | 133.426   | 92.68527399999999  |
| 660 | 663 Salina    | 67   | 0     | 97.544201 | 80.79418779999999  |
| 661 | 664 Salina    | 115  | 0     | 234.00001 | 176                |
| 662 | 665 Salina    | 153  | 0     | 286.1299  | 229.5001           |
| 663 | 666 Geddes    | 248  | 0     | 600.4211  | 447.8055895999999  |
| 664 | 667 Salina    | 521  | 3     | 1205.693  | 815.4357882700001  |
| 665 | 668 Dewitt    | 17   | 0     | 37.1875   | 25.5               |
| 666 | 669 Van Buren | 153  | 0     | 389.93720 | 304.9373           |
| 667 | 670 Van Buren | 61   | 0     | 159.3869  | 121.01602120000001 |
| 668 | 671 Sullivan  | 204  | 0     | 528.75830 | 412.68937248000003 |
| 669 | 672 Dewitt    | 0    | 0     | 0         | 0                  |
| 670 | 673 Dewitt    | 14   | 23    | 48.27777  | 19.83333           |
| 671 | 674 Manlius   | 181  | 0     | 458.3906  | 343.7929           |
| 672 | 675 Manlius   | 247  | 7     | 571.26737 | 448.21995789999994 |
| 673 | 676 Salina    | 327  | 6     | 760.24190 | 447.67900991999994 |
| 674 | 677 Salina    | 423  | 0     | 867.3025  | 662.3960251499999  |
| 675 | 678 Van Buren | 90   | 0     | 217.5     | 173.57138099999997 |
| 676 | 679 Salina    | 1083 | 0     | 2481.4663 | 1806.083           |
| 677 | 680 Salina    | 179  | 0     | 412.69436 | 295.3499           |
| 678 | 681 Salina    | 483  | 0     | 1150.6177 | 825.2913           |
| 679 | 682 Van Buren | 53   | 0     | 129.75862 | 87.72416           |
| 680 | 683 Salina    | 272  | 7     | 637.10081 | 424.63320799999997 |
| 681 | 684 Salina    | 103  | 0     | 225.99999 | 177.99998354000002 |
| 682 | 685 Salina    | 314  | 7     | 675.2313  | 505.3438           |



| TAZ  | Town_City     | HH  | HH_GQ | pop       | veh                |
|------|---------------|-----|-------|-----------|--------------------|
| 683  | 686 Dewitt    | 69  | 0     | 140.0596  | 107.1044           |
| 684  | 687 Salina    | 285 | 0     | 525       | 395.00005919999995 |
| 685  | 688 Van Buren | 184 | 0     | 493.3629  | 371.03314800000004 |
| 686  | 689 Van Buren | 0   | 4     | 4         | 0                  |
| 687  | 690 Dewitt    | 13  | 0     | 24.99999  | 17.99999           |
| 688  | 691 Dewitt    | 2   | 0     | 5         | 3                  |
| 689  | 692 Salina    | 274 | 19    | 573.56866 | 441.9659565599999  |
| 690  | 693 Salina    | 472 | 0     | 776.6453  | 656.3904           |
| 691  | 694 Geddes    | 12  | 0     | 28.800000 | 21.6               |
| 692  | 695 Salina    | 5   | 0     | 11.25     | 7.5                |
| 693  | 696 Van Buren | 2   | 0     | 4         | 4                  |
| 694  | 697 Salina    | 202 | 0     | 457.53000 | 359.56             |
| 695  | 698 Salina    | 289 | 0     | 708.35310 | 541.6224           |
| 696  | 699 Sullivan  | 85  | 0     | 184.57136 | 155.4285           |
| 697  | 700 Van Buren | 184 | 0     | 400.9996  | 299.99978975999994 |
| 698  | 701 Salina    | 591 | 0     | 1261.228  | 947.5269200400002  |
| 1101 | 1107 Clay     | 10  | 0     | 22        | 14                 |
| 1102 | 1108 Clay     | 50  | 0     | 104.08157 | 71.42853           |
| 699  | 703 Van Buren | 110 | 0     | 293.6894  | 218.93209800000002 |
| 700  | 704 Geddes    | 106 | 6     | 263.8376  | 192.90077159999998 |
| 701  | 705 Salina    | 549 | 5     | 1110.971  | 734.3252           |
| 702  | 706 Salina    | 4   | 0     | 6         | 4                  |
| 703  | 707 Geddes    | 0   | 2     | 2         | 0                  |
| 704  | 708 Van Buren | 517 | 0     | 1168.7265 | 852.1734626900002  |
| 705  | 709 Clay      | 68  | 0     | 148.9524  | 119.8096           |
| 706  | 710 Clay      | 47  | 0     | 67.14286  | 57.07143260000001  |
| 707  | 711 Salina    | 31  | 0     | 72.689649 | 55.5862            |
| 1099 | 1105 Salina   | 0   | 0     | 0         | 0                  |
| 1100 | 1106 Salina   | 4   | 0     | 12        | 8                  |
| 708  | 713 Clay      | 163 | 0     | 401.2305  | 308.9018           |
| 709  | 714 Clay      | 1   | 0     | 4         | 2                  |
| 710  | 715 Clay      | 228 | 0     | 453.9643  | 366.42856752000006 |
| 711  | 716 Cicero    | 13  | 0     | 21.66665  | 15.88887           |
| 712  | 717 Van Buren | 374 | 0     | 886.5894  | 645.4827178799999  |
| 713  | 718 Van Buren | 19  | 0     | 50.666701 | 34.20002           |
| 714  | 719 Cicero    | 18  | 0     | 40.799978 | 28.79998           |
| 715  | 720 Cicero    | 31  | 0     | 72.68966  | 50.24138069999999  |
| 716  | 721 Cicero    | 17  | 0     | 48.875    | 30.8125            |
| 717  | 722 Van Buren | 162 | 0     | 359.43749 | 264.26249999999993 |
| 718  | 723 Salina    | 658 | 0     | 1596.1298 | 1186.013           |
| 719  | 724 Salina    | 38  | 0     | 106.81070 | 74.97290179999999  |
| 720  | 725 Clay      | 369 | 0     | 624.9998  | 509.9998           |
| 721  | 726 Clay      | 376 | 0     | 813.9996  | 588.9996           |



| TAZ | Town_City     | HH   | HH_GQ | pop       | veh                |
|-----|---------------|------|-------|-----------|--------------------|
| 722 | 727 Clay      | 223  | 0     | 513.30200 | 368.65316359999997 |
| 723 | 728 Cicero    | 0    | 0     | 0         | 0                  |
| 724 | 729 Salina    | 449  | 6     | 859.19956 | 713.8204           |
| 725 | 730 Salina    | 73   | 0     | 157.00001 | 126.99999799999999 |
| 726 | 731 Clay      | 285  | 0     | 710.4047  | 551.14             |
| 727 | 732 Clay      | 9    | 0     | 20.25     | 10.125             |
| 728 | 733 Clay      | 0    | 0     | 0         | 0                  |
| 729 | 734 Cicero    | 1    | 0     | 1         | 1                  |
| 730 | 735 Cicero    | 176  | 0     | 367.43877 | 259.3686           |
| 731 | 736 Clay      | 557  | 7     | 1216.0008 | 839.0004664999999  |
| 732 | 737 Cicero    | 17   | 0     | 26.272702 | 20.090888999999997 |
| 733 | 738 Lysander  | 195  | 0     | 475.24575 | 383.6065           |
| 734 | 739 Lysander  | 103  | 0     | 245.9388  | 200.74490910000003 |
| 735 | 740 Clay      | 512  | 0     | 819.2     | 627.4509           |
| 736 | 741 Van Buren | 201  | 0     | 368.835   | 300.495            |
| 737 | 742 Salina    | 620  | 0     | 1012.2234 | 931.5315           |
| 738 | 743 Cicero    | 426  | 0     | 875.4399  | 637.9806245999999  |
| 739 | 744 Cicero    | 28   | 0     | 49.777730 | 40.444404000000006 |
| 740 | 745 Clay      | 226  | 0     | 531.4056  | 421.45955779999997 |
| 741 | 746 Clay      | 449  | 0     | 1023.9638 | 723.2763           |
| 742 | 747 Clay      | 738  | 0     | 1257.9544 | 1055.6332885800002 |
| 743 | 748 Clay      | 1    | 0     | 2         | 2                  |
| 744 | 749 Clay      | 57   | 0     | 107.8928  | 77.35709           |
| 745 | 750 Clay      | 1460 | 8     | 3109.6224 | 2071.0933806000003 |
| 746 | 751 Cicero    | 0    | 0     | 0         | 0                  |
| 747 | 752 Cicero    | 324  | 5     | 684.38749 | 479.92499999999995 |
| 748 | 753 Clay      | 288  | 0     | 684.6593  | 528.5274           |
| 749 | 754 Clay      | 591  | 0     | 1392.134  | 939.5389           |
| 750 | 755 Clay      | 392  | 0     | 958.8934  | 746.8111560000001  |
| 751 | 756 Clay      | 8    | 0     | 14.666680 | 14.66668           |
| 752 | 757 Van Buren | 691  | 0     | 1347.398  | 1054.3084243600001 |
| 753 | 758 Cicero    | 68   | 0     | 160.62064 | 106.68965399999999 |
| 754 | 759 Cicero    | 149  | 0     | 304.12336 | 220.4384           |
| 755 | 760 Cicero    | 196  | 0     | 431.7972  | 300.4671           |
| 756 | 761 Clay      | 541  | 0     | 1388.7    | 1001.554           |
| 757 | 762 Clay      | 372  | 0     | 945.7977  | 667.5619198799999  |
| 758 | 763 Salina    | 207  | 0     | 484.0004  | 377.00020314000005 |
| 759 | 764 Lysander  | 688  | 0     | 1705.72   | 1290.3237728000001 |
| 760 | 765 Cicero    | 9    | 0     | 24.75     | 16.875             |
| 761 | 766 Cicero    | 49   | 0     | 89.179999 | 70.55999999999999  |
| 762 | 767 Van Buren | 82   | 0     | 191.67500 | 139.4              |
| 763 | 768 Clay      | 248  | 0     | 609.7525  | 453.98371599999996 |
| 764 | 769 Cicero    | 124  | 0     | 286.688   | 210.30399999999997 |



| TAZ | Town_City     | HH  | HH_GQ | pop       | veh                 |
|-----|---------------|-----|-------|-----------|---------------------|
| 765 | 770 Cicero    | 137 | 0     | 308.25026 | 213.111309000000006 |
| 766 | 771 Van Buren | 666 | 0     | 1341.207  | 1017.926            |
| 767 | 772 Van Buren | 181 | 0     | 432.38901 | 353.9555            |
| 768 | 773 Van Buren | 115 | 0     | 276.20511 | 223.839101550000004 |
| 769 | 774 Clay      | 471 | 0     | 1105.429  | 801.9179            |
| 770 | 775 Van Buren | 262 | 0     | 480.1635  | 386.373574600000004 |
| 771 | 776 Van Buren | 49  | 0     | 117.00009 | 93.00008            |
| 772 | 777 Van Buren | 29  | 0     | 69.81478  | 57.999970999999995  |
| 773 | 778 Clay      | 506 | 0     | 1191.844  | 814.88425920000001  |
| 774 | 779 Clay      | 137 | 0     | 335.3432  | 220.835793699999998 |
| 775 | 780 Cicero    | 149 | 0     | 356.1203  | 277.921862600000005 |
| 776 | 781 Clay      | 218 | 0     | 521.7872  | 394.620552360000003 |
| 777 | 782 Clay      | 475 | 0     | 1075.054  | 825.95585899999999  |
| 778 | 783 Cicero    | 26  | 0     | 54.000008 | 38.000003600000001  |
| 779 | 784 Cicero    | 425 | 3     | 863.0234  | 627.4764            |
| 780 | 785 Clay      | 556 | 0     | 1437.686  | 1047.06520480000002 |
| 781 | 786 Lysander  | 680 | 0     | 2042.882  | 1388.81343600000001 |
| 782 | 787 Lysander  | 589 | 0     | 1427.8794 | 1081.321            |
| 783 | 788 Clay      | 303 | 0     | 729.59198 | 559.15453350000001  |
| 784 | 789 Clay      | 88  | 0     | 235.32551 | 175.999806399999998 |
| 785 | 790 Van Buren | 122 | 0     | 298.5411  | 183.7175            |
| 786 | 791 Clay      | 415 | 0     | 973.9989  | 733.99933650000003  |
| 787 | 792 Cicero    | 231 | 0     | 632.9602  | 433.5065            |
| 788 | 793 Clay      | 3   | 0     | 3         | 3                   |
| 789 | 794 Clay      | 393 | 0     | 963.90496 | 714.63650550000001  |
| 790 | 795 Clay      | 761 | 5     | 2140.679  | 1561.62631257000002 |
| 791 | 796 Van Buren | 63  | 0     | 143.0846  | 105.711750900000001 |
| 792 | 797 Van Buren | 132 | 0     | 346.1886  | 207.962211599999993 |
| 793 | 798 Van Buren | 816 | 0     | 1186.4821 | 925.4249635199999   |
| 794 | 799 Clay      | 5   | 0     | 5         | 5                   |
| 795 | 800 Lysander  | 544 | 0     | 1645.1444 | 1114.29             |
| 796 | 801 Cicero    | 468 | 9     | 1216.543  | 883.5428            |
| 797 | 802 Clay      | 95  | 0     | 220.2271  | 165.1703            |
| 798 | 803 Clay      | 229 | 0     | 507.4316  | 409.577             |
| 799 | 804 Cicero    | 47  | 0     | 97.710584 | 85.34216            |
| 800 | 805 Cicero    | 0   | 2     | 2         | 0                   |
| 801 | 806 Cicero    | 7   | 0     | 18.200000 | 14                  |
| 802 | 807 Cicero    | 513 | 0     | 1115.5235 | 809.73538002000001  |
| 803 | 808 Clay      | 267 | 4     | 683.17448 | 506.58913920000001  |
| 804 | 809 Van Buren | 383 | 15    | 897.89600 | 562.6205            |
| 805 | 810 Van Buren | 110 | 0     | 243.7837  | 157.567471599999998 |
| 806 | 811 Van Buren | 93  | 0     | 234.00019 | 142.0001            |
| 807 | 812 Van Buren | 331 | 0     | 892.87663 | 673.7801            |



| TAZ | Town_City     | HH   | HH_GQ | pop       | veh                 |
|-----|---------------|------|-------|-----------|---------------------|
| 808 | 813 Clay      | 1305 | 3     | 3111.0291 | 2320.68888630000004 |
| 809 | 814 Van Buren | 243  | 0     | 583.2     | 363.528             |
| 810 | 815 Lysander  | 245  | 4     | 742.51676 | 502.8947            |
| 811 | 816 Lysander  | 133  | 0     | 376.58464 | 260.0227            |
| 812 | 817 Cicero    | 471  | 0     | 843.9591  | 730.7573            |
| 813 | 818 Sullivan  | 23   | 0     | 58.54546  | 47.045460399999996  |
| 814 | 819 Sullivan  | 50   | 0     | 101.11110 | 86.66666            |
| 815 | 820 Clay      | 29   | 0     | 70.999960 | 49.99999            |
| 816 | 821 Lysander  | 103  | 0     | 194.99998 | 154                 |
| 817 | 822 Lysander  | 154  | 0     | 346.50013 | 252.999978000000003 |
| 818 | 823 Lysander  | 185  | 0     | 413.7635  | 307.33874249999997  |
| 819 | 824 Lysander  | 190  | 0     | 426.96637 | 347.977514000000004 |
| 820 | 825 Lysander  | 134  | 0     | 319.61449 | 227.303476400000002 |
| 821 | 826 Clay      | 398  | 0     | 1051.493  | 763.4265            |
| 822 | 827 Clay      | 628  | 0     | 1702.963  | 1212.0190875999997  |
| 823 | 828 Cicero    | 625  | 0     | 1703.698  | 1192.9              |
| 824 | 829 Clay      | 103  | 0     | 221.14705 | 180.7549            |
| 825 | 830 Cicero    | 226  | 0     | 519.906   | 400.0093102000001   |
| 826 | 831 Clay      | 614  | 0     | 1603.165  | 1160.3293223800001  |
| 827 | 832 Clay      | 3    | 0     | 3         | 3                   |
| 828 | 833 Clay      | 344  | 0     | 983.4722  | 690.156             |
| 829 | 834 Cicero    | 227  | 0     | 461.28895 | 368.61465369999996  |
| 830 | 835 Lysander  | 185  | 0     | 489.22204 | 376.16649399999994  |
| 831 | 836 Lysander  | 329  | 0     | 852.49158 | 639.823             |
| 832 | 837 Clay      | 542  | 0     | 1380.197  | 913.2747            |
| 833 | 838 Clay      | 573  | 0     | 1562.307  | 1130.638            |
| 834 | 839 Lysander  | 209  | 0     | 519.29443 | 376.9694            |
| 835 | 840 Lysander  | 98   | 0     | 200.89999 | 155.1667            |
| 836 | 841 Clay      | 994  | 0     | 2745.579  | 1916.0463280000001  |
| 837 | 842 Lysander  | 263  | 0     | 544.8608  | 411.789             |
| 838 | 843 Sullivan  | 168  | 0     | 355.26128 | 302.8281            |
| 839 | 844 Lysander  | 306  | 0     | 864.35012 | 574.2465247800001   |
| 840 | 845 Lysander  | 196  | 0     | 578.8839  | 372.628095000000003 |
| 841 | 846 Lysander  | 686  | 4     | 1760.3032 | 1225.941            |
| 842 | 847 Lysander  | 154  | 0     | 337.99992 | 256.9999            |
| 843 | 848 Lysander  | 193  | 0     | 492.6221  | 387.349456000000003 |
| 844 | 849 Cicero    | 229  | 0     | 547.0002  | 420.00024379999996  |
| 845 | 850 Cicero    | 503  | 0     | 1080.7032 | 840.6576627999999   |
| 846 | 851 Clay      | 1377 | 2     | 3564.129  | 2687.823            |
| 847 | 852 Cicero    | 123  | 0     | 334.2394  | 221.935             |
| 848 | 853 Cicero    | 224  | 0     | 473.3862  | 338.9864            |
| 849 | 854 Cicero    | 31   | 0     | 86.79995  | 57.86664            |
| 850 | 855 Cicero    | 401  | 0     | 1221.176  | 779.2806472599999   |



| TAZ  | Town_City    | HH   | HH_GQ | pop       | veh                |
|------|--------------|------|-------|-----------|--------------------|
| 851  | 856 Cicero   | 138  | 0     | 388.0603  | 255.2481           |
| 852  | 857 Clay     | 456  | 0     | 892.894   | 806.2796786399999  |
| 853  | 858 Clay     | 728  | 0     | 1876.58   | 1420.9532864799999 |
| 854  | 859 Clay     | 1119 | 0     | 2507.5863 | 1813.293           |
| 855  | 860 Sullivan | 161  | 0     | 411.97060 | 323.57837316000007 |
| 856  | 861 Clay     | 648  | 0     | 1934.017  | 1315.9701936000001 |
| 857  | 862 Clay     | 8    | 0     | 18.285695 | 14.85713           |
| 858  | 863 Clay     | 234  | 0     | 611.6847  | 459.7898           |
| 859  | 864 Clay     | 142  | 0     | 345.73934 | 271.65231900000003 |
| 860  | 865 Sullivan | 73   | 0     | 163.6971  | 136.0456           |
| 861  | 866 Cicero   | 443  | 0     | 1168.3861 | 823.0143486000001  |
| 862  | 867 Clay     | 330  | 0     | 772.6818  | 611.7067           |
| 863  | 868 Clay     | 219  | 0     | 470.85    | 394.2              |
| 864  | 869 Lysander | 318  | 0     | 916.014   | 622.9764           |
| 865  | 870 Lysander | 600  | 0     | 1357.448  | 985.1072999999999  |
| 866  | 871 Cicero   | 118  | 0     | 287.625   | 213.875            |
| 867  | 872 Cicero   | 8    | 0     | 17.6      | 12.8               |
| 868  | 873 Cicero   | 610  | 0     | 1721.1505 | 1150.835           |
| 869  | 874 Cicero   | 362  | 0     | 792.81009 | 634.2479571599999  |
| 870  | 875 Cicero   | 476  | 0     | 1334.362  | 892.9186           |
| 871  | 876 Clay     | 97   | 0     | 0         | 0                  |
| 872  | 877 Clay     | 0    | 0     | 0         | 0                  |
| 873  | 878 Lysander | 548  | 0     | 938.82919 | 732.4127133999998  |
| 874  | 879 Clay     | 109  | 0     | 238.71000 | 196.20000000000002 |
| 875  | 880 Clay     | 7    | 0     | 14        | 14                 |
| 876  | 881 Clay     | 12   | 0     | 29.142827 | 23.999975999999997 |
| 877  | 882 Clay     | 69   | 0     | 163.47689 | 127.38459150000001 |
| 878  | 883 Lysander | 32   | 0     | 92.63152  | 67.36839           |
| 879  | 884 Cicero   | 922  | 0     | 2545.2424 | 1787.0637339999996 |
| 880  | 885 Cicero   | 282  | 0     | 790.3948  | 548.113            |
| 881  | 886 Cicero   | 180  | 0     | 460.5589  | 327.8212740000001  |
| 882  | 887 Clay     | 401  | 0     | 601.5     | 601.5              |
| 883  | 888 Clay     | 15   | 0     | 33.21431  | 27.857163000000007 |
| 884  | 889 Clay     | 23   | 0     | 61.681860 | 46.00004           |
| 885  | 890 Lysander | 367  | 0     | 884.7914  | 658.6042907000001  |
| 886  | 891 Lysander | 265  | 0     | 693.6449  | 526.8323755000001  |
| 887  | 892 Lysander | 218  | 0     | 572.1214  | 439.07             |
| 888  | 893 Clay     | 30   | 0     | 73.84618  | 60.000012000000005 |
| 889  | 894 Clay     | 6    | 0     | 10.800000 | 10.8               |
| 890  | 895 Lysander | 641  | 7     | 1438.288  | 1061.7211640699998 |
| 891  | 896 Lysander | 261  | 0     | 696.3527  | 532.5671           |
| 1106 | 1112 Clay    | 210  | 0     | 482.5532  | 366.383            |
| 1103 | 1109 Clay    | 9    | 0     | 19.800000 | 17.1               |



|      | TAZ  | Town_City | HH  | HH_GQ | pop       | veh                |
|------|------|-----------|-----|-------|-----------|--------------------|
| 1104 | 1110 | Clay      | 12  | 0     | 26.999996 | 23.999997600000004 |
| 1105 | 1111 | Clay      | 10  | 0     | 22.72727  | 20                 |
| 892  | 898  | Clay      | 73  | 0     | 180.913   | 139.6522           |
| 893  | 899  | Clay      | 48  | 0     | 91.636372 | 91.63637           |
| 894  | 900  | Clay      | 26  | 0     | 72.8      | 54.599999999999994 |
| 895  | 901  | Clay      | 84  | 0     | 204.95999 | 168                |
| 896  | 902  | Cicero    | 483 | 0     | 1208.099  | 879.7071           |
| 897  | 903  | Cicero    | 143 | 0     | 278.3119  | 216.80650419999998 |
| 898  | 904  | Cicero    | 196 | 0     | 363.99993 | 293.9999           |
| 899  | 905  | Cicero    | 183 | 0     | 432.66423 | 320.2499451000001  |
| 900  | 906  | Clay      | 33  | 0     | 87.57689  | 68.53845           |
| 901  | 907  | Clay      | 101 | 0     | 234.32    | 193.92000000000004 |
| 902  | 908  | Clay      | 119 | 0     | 261.80001 | 218.33914725000005 |
| 903  | 909  | Lysander  | 404 | 0     | 1028.3643 | 729.2991031999999  |
| 904  | 910  | Lysander  | 95  | 0     | 212.28394 | 181.79009050000002 |
| 905  | 911  | Schroeppe | 65  | 0     | 123.6066  | 109.75410550000001 |
| 906  | 912  | Cicero    | 303 | 0     | 669.04042 | 516.5235849000001  |
| 907  | 913  | Cicero    | 89  | 0     | 230.5911  | 169.9092           |
| 908  | 914  | Schroeppe | 107 | 4     | 242.45719 | 163.04767320999997 |
| 909  | 915  | Lysander  | 150 | 0     | 407.60885 | 311.9567           |
| 910  | 916  | Cicero    | 512 | 0     | 1406.446  | 972.1785           |
| 911  | 917  | Schroeppe | 151 | 0     | 359.82991 | 231.31928580000005 |
| 912  | 918  | Clay      | 198 | 0     | 487.62762 | 377.0426           |
| 913  | 919  | Clay      | 230 | 0     | 581.6771  | 437.74174999999997 |
| 914  | 920  | Schroeppe | 92  | 0     | 221.6868  | 141.8796           |
| 915  | 921  | Schroeppe | 98  | 0     | 223.99981 | 149.69217760000004 |
| 916  | 922  | Clay      | 333 | 0     | 854.56674 | 641.9281292999999  |
| 917  | 923  | Clay      | 53  | 0     | 126.10331 | 104.1723           |
| 918  | 924  | Schroeppe | 175 | 0     | 409.0625  | 262.5              |
| 919  | 925  | Schroeppe | 83  | 0     | 158.35520 | 109.2105           |
| 920  | 926  | Schroeppe | 59  | 0     | 152.96313 | 100.5186           |
| 921  | 927  | Cicero    | 281 | 0     | 809.57698 | 553.3347           |
| 922  | 928  | Cicero    | 414 | 0     | 831.18500 | 653.908            |
| 923  | 929  | Cicero    | 432 | 0     | 1181.6467 | 819.5293670400001  |
| 924  | 930  | Schroeppe | 90  | 0     | 189.64295 | 129.6429           |
| 925  | 931  | Schroeppe | 33  | 0     | 61.448273 | 46.655188800000005 |
| 926  | 932  | Schroeppe | 55  | 0     | 142.5509  | 89.79586           |
| 927  | 933  | Cicero    | 128 | 0     | 269.2063  | 209.2698           |
| 928  | 934  | Cicero    | 139 | 0     | 312.75    | 234.0515           |
| 929  | 935  | Schroeppe | 151 | 0     | 252.7152  | 191.8958           |
| 930  | 936  | Hastings  | 78  | 0     | 166.02850 | 145.97136840000002 |
| 931  | 937  | Hastings  | 136 | 0     | 287.232   | 216.51200000000006 |
| 932  | 938  | Hastings  | 175 | 0     | 390.21707 | 329.34760600000004 |



| TAZ | Town_City     | HH  | HH_GQ | pop       | veh                |
|-----|---------------|-----|-------|-----------|--------------------|
| 933 | 939 Hastings  | 111 | 0     | 253.71415 | 184.18669560000004 |
| 934 | 940 Hastings  | 147 | 0     | 376.6878  | 266.4376           |
| 935 | 941 Hastings  | 233 | 0     | 303.7321  | 255.88396219000006 |
| 936 | 942 Hastings  | 108 | 0     | 246.40778 | 181.39808520000005 |
| 937 | 943 Hastings  | 92  | 0     | 207.6218  | 152.9191           |
| 938 | 944 Hastings  | 203 | 7     | 515.64065 | 345.55633181999997 |
| 939 | 945 Hastings  | 128 | 0     | 241.2742  | 227.68127488000002 |
| 940 | 946 Hastings  | 230 | 0     | 625.7863  | 421.4717           |
| 941 | 947 Hastings  | 28  | 0     | 64.16666  | 51.33332119999999  |
| 942 | 948 Hastings  | 114 | 0     | 274.08533 | 223.14910619999998 |
| 943 | 949 Hastings  | 24  | 0     | 59.47831  | 48.00004           |
| 944 | 950 Hastings  | 22  | 0     | 70.4      | 49.5               |
| 945 | 951 Hastings  | 146 | 0     | 284.76029 | 264.2479           |
| 946 | 952 Hastings  | 24  | 0     | 60.57142  | 46.85713200000001  |
| 947 | 953 Hastings  | 95  | 0     | 251.32914 | 193.6076           |
| 948 | 954 Hastings  | 4   | 0     | 13        | 9                  |
| 949 | 955 West Monr | 110 | 0     | 276.1     | 218.9              |
| 950 | 956 Hastings  | 132 | 0     | 357.8184  | 270.5456           |
| 951 | 957 Sullivan  | 60  | 0     | 147.8572  | 117.8572           |
| 952 | 958 Sullivan  | 58  | 0     | 129.7091  | 111.7818           |
| 953 | 959 Sullivan  | 142 | 6     | 355.38095 | 276.8487           |
| 954 | 960 Sullivan  | 278 | 0     | 632.68958 | 532.5669           |
| 955 | 961 Sullivan  | 94  | 0     | 230.82210 | 187.99992480000003 |
| 956 | 962 Sullivan  | 30  | 0     | 70.000019 | 60.00001           |
| 957 | 963 Sullivan  | 95  | 0     | 187.8888  | 165.7221           |
| 958 | 964 Sullivan  | 309 | 0     | 737.33771 | 600.9515275500002  |
| 959 | 965 Sullivan  | 69  | 0     | 154.1719  | 131.5313           |
| 960 | 966 Sullivan  | 85  | 0     | 218.7193  | 173.1096           |
| 961 | 967 Sullivan  | 184 | 0     | 407.9544  | 342.76579655999996 |
| 962 | 968 Sullivan  | 8   | 0     | 18.285695 | 14.85713           |
| 963 | 969 Sullivan  | 37  | 0     | 85.970613 | 70.73530500000001  |
| 964 | 970 Sullivan  | 33  | 0     | 89.71875  | 69.09375           |
| 965 | 971 Sullivan  | 17  | 0     | 44.625    | 35.0625            |
| 966 | 972 Sullivan  | 12  | 0     | 22.909076 | 18.545441999999998 |
| 967 | 973 Sullivan  | 53  | 0     | 138.21565 | 102.8823           |
| 968 | 974 Sullivan  | 44  | 0     | 108.39020 | 87.99997           |
| 969 | 975 Sullivan  | 110 | 0     | 278.17276 | 212.59594399999997 |
| 970 | 976 Sullivan  | 45  | 0     | 122.143   | 91.0715            |
| 971 | 977 Sullivan  | 93  | 0     | 240.3372  | 189.13500209999998 |
| 972 | 978 Sullivan  | 25  | 0     | 62.500017 | 52.08334           |
| 973 | 979 Sullivan  | 42  | 0     | 99.07689  | 82.92304           |
| 974 | 980 Sullivan  | 97  | 0     | 245.66298 | 196.1086           |
| 975 | 981 Sullivan  | 73  | 0     | 183.54265 | 142.87130029999997 |



| TAZ  | Town_City      | HH  | HH_GQ | pop       | veh                |
|------|----------------|-----|-------|-----------|--------------------|
| 976  | 982 Sullivan   | 188 | 0     | 465.72736 | 364.25             |
| 977  | 983 Sullivan   | 8   | 0     | 20        | 17                 |
| 978  | 984 Sullivan   | 89  | 0     | 218.2618  | 174.8214           |
| 979  | 985 Sullivan   | 25  | 0     | 67.045487 | 48.86366           |
| 980  | 986 Sullivan   | 95  | 0     | 261.51655 | 191.06717300000003 |
| 981  | 987 Sullivan   | 32  | 0     | 75.03443  | 60.68961           |
| 982  | 988 Sullivan   | 126 | 0     | 331.0171  | 258.4068           |
| 983  | 989 Sullivan   | 133 | 0     | 342.00022 | 233.2779           |
| 984  | 990 Sullivan   | 54  | 0     | 124.61547 | 104.88472379999999 |
| 985  | 991 Sullivan   | 35  | 0     | 82.35292  | 66.91174           |
| 986  | 992 Sullivan   | 510 | 0     | 1207.107  | 848.9307           |
| 987  | 993 Sullivan   | 157 | 0     | 339.98602 | 284.76532829999996 |
| 988  | 994 Sullivan   | 78  | 0     | 168.64862 | 122.27025720000003 |
| 989  | 995 Sullivan   | 339 | 8     | 792.067   | 545.9354310000001  |
| 990  | 996 Sullivan   | 494 | 0     | 1189.654  | 818.3543           |
| 991  | 997 Sullivan   | 125 | 0     | 273.7069  | 200.43102374999998 |
| 992  | 998 Sullivan   | 293 | 6     | 789.212   | 587.1273           |
| 993  | 999 Sullivan   | 8   | 0     | 22.85712  | 19.428551999999996 |
| 994  | 1000 Sullivan  | 34  | 0     | 78.96764  | 61.419279599999996 |
| 995  | 1001 Sullivan  | 33  | 0     | 83.03224  | 65.99998           |
| 996  | 1002 Sullivan  | 33  | 0     | 84.09667  | 63.870882900000005 |
| 997  | 1003 Sullivan  | 67  | 0     | 148.04837 | 127.51610849999999 |
| 998  | 1004 Sullivan  | 37  | 0     | 77.264735 | 71.82355640000002  |
| 999  | 1005 Sullivan  | 22  | 0     | 52.8      | 42.9               |
| 1000 | 1006 Sullivan  | 104 | 0     | 232.4081  | 170.85705520000002 |
| 1001 | 1007 Sullivan  | 73  | 0     | 155.52176 | 135.4203           |
| 1002 | 1008 Sullivan  | 37  | 0     | 93.0287   | 72.94296179999999  |
| 1003 | 1009 Granby    | 47  | 0     | 108.95450 | 81.18179810000001  |
| 1004 | 1010 Schroeppe | 60  | 0     | 135.7894  | 109.4736           |
| 1005 | 1011 Schroeppe | 145 | 0     | 382.75745 | 284.6691           |
| 1006 | 1012 Schroeppe | 83  | 0     | 221.6838  | 160.747            |
| 1007 | 1013 Schroeppe | 30  | 0     | 73.33327  | 57.77772899999999  |
| 1008 | 1014 Schroeppe | 42  | 0     | 109.2     | 84                 |
| 1009 | 1015 Schroeppe | 36  | 0     | 83.647000 | 66.70582920000001  |
| 1010 | 1016 Schroeppe | 18  | 0     | 41.999990 | 33                 |
| 1011 | 1017 Schroeppe | 71  | 0     | 171.67147 | 135.6417           |
| 1012 | 1018 Schroeppe | 32  | 0     | 75.35485  | 60.903248000000005 |
| 1013 | 1019 Schroeppe | 36  | 0     | 108       | 77.625             |
| 1014 | 1020 Schroeppe | 44  | 0     | 121       | 90.2               |
| 1015 | 1021 Schroeppe | 70  | 0     | 180.3031  | 134.697            |
| 1016 | 1022 Schroeppe | 16  | 0     | 33.142854 | 28.57143           |
| 1017 | 1023 Schroeppe | 226 | 0     | 598.73938 | 437.0047           |
| 1018 | 1024 Schroeppe | 59  | 0     | 138.7593  | 110.3519           |



| TAZ  | Town_City      | HH  | HH_GQ | pop       | veh                |
|------|----------------|-----|-------|-----------|--------------------|
| 1019 | 1025 Schroeppe | 100 | 0     | 246.87505 | 188.54172999999997 |
| 1020 | 1026 Schroeppe | 32  | 0     | 81.142918 | 64.00005           |
| 1021 | 1027 Schroeppe | 49  | 0     | 127.39994 | 99.08881919999999  |
| 1022 | 1028 Schroeppe | 57  | 0     | 127.15391 | 103.03848960000002 |
| 1023 | 1029 Schroeppe | 212 | 0     | 452.76357 | 368.60279515999997 |
| 1024 | 1030 Schroeppe | 49  | 0     | 105.45662 | 89.47833           |
| 1025 | 1031 Schroeppe | 58  | 0     | 146.07398 | 114.9259           |
| 1026 | 1032 Schroeppe | 278 | 0     | 709.9688  | 534.6152           |
| 1027 | 1033 Schroeppe | 104 | 0     | 291.41687 | 211.2501           |
| 1028 | 1034 Schroeppe | 178 | 0     | 411.42509 | 327.2216           |
| 1029 | 1035 Schroeppe | 30  | 0     | 68.000007 | 55.00001099999999  |
| 1030 | 1036 Schroeppe | 64  | 0     | 159.4576  | 123.66102400000001 |
| 1031 | 1037 Schroeppe | 11  | 0     | 21.083331 | 19.25              |
| 1032 | 1038 Schroeppe | 22  | 0     | 42.900000 | 37.400000000000006 |
| 1033 | 1039 Schroeppe | 41  | 0     | 109.7026  | 83.10804           |
| 1034 | 1040 Hastings  | 73  | 0     | 172.4492  | 122.72462890000003 |
| 1035 | 1041 Hastings  | 41  | 0     | 102.5     | 74.44736           |
| 1036 | 1042 Hastings  | 196 | 0     | 470.1856  | 343.80311783999997 |
| 1037 | 1043 Hastings  | 57  | 0     | 157.27790 | 107.66675850000001 |
| 1038 | 1044 Hastings  | 32  | 0     | 82.285731 | 59.42857599999999  |
| 1039 | 1045 Hastings  | 12  | 0     | 28.363627 | 23.99999           |
| 1040 | 1046 Hastings  | 126 | 0     | 359.84780 | 239.18662656000004 |
| 1041 | 1047 Hastings  | 37  | 0     | 91.971514 | 67.65721210000001  |
| 1042 | 1048 Hastings  | 19  | 0     | 58.11766  | 41.35293949999999  |
| 1043 | 1049 Hastings  | 28  | 0     | 64.61544  | 53.84620360000001  |
| 1044 | 1050 Hastings  | 35  | 0     | 88.529371 | 67.94114           |
| 1045 | 1051 Hastings  | 75  | 0     | 213.38017 | 155.2816           |
| 1046 | 1052 Hastings  | 114 | 0     | 308.22227 | 232.22227119999996 |
| 1047 | 1053 Hastings  | 43  | 0     | 96.23809  | 80.88094           |
| 1048 | 1054 Hastings  | 102 | 0     | 302.84529 | 215.567            |
| 1049 | 1055 Hastings  | 84  | 0     | 191.10000 | 163.8              |
| 1050 | 1056 Hastings  | 113 | 0     | 266.5096  | 220.66993463999995 |
| 1051 | 1057 Hastings  | 83  | 0     | 207.5     | 163.8718           |
| 1052 | 1058 Hastings  | 111 | 0     | 284.9711  | 220.93261733999998 |
| 1053 | 1059 Hastings  | 43  | 0     | 117.7382  | 89.07146420000001  |
| 1054 | 1060 Hastings  | 118 | 0     | 334.86469 | 246.63047840000002 |
| 1055 | 1061 Hastings  | 68  | 0     | 199.75    | 142.375            |
| 1056 | 1062 Hastings  | 12  | 0     | 20.72726  | 21.81817           |
| 1057 | 1063 Hastings  | 27  | 0     | 78.84     | 57.24              |
| 1058 | 1064 Hastings  | 25  | 0     | 70.65226  | 52.173982499999994 |
| 1059 | 1065 Hastings  | 61  | 0     | 171.4311  | 125.1552           |
| 1060 | 1066 Hastings  | 30  | 0     | 84.642861 | 63.21429           |
| 1061 | 1067 Hastings  | 95  | 0     | 239.06583 | 188.956            |



| TAZ  | Town_City      | HH  | HH_GQ | pop       | veh                |
|------|----------------|-----|-------|-----------|--------------------|
| 1062 | 1068 West Monr | 26  | 0     | 67        | 52.000012999999996 |
| 1063 | 1069 West Monr | 36  | 0     | 87.272679 | 70.90905599999999  |
| 1064 | 1070 West Monr | 35  | 0     | 90.58819  | 69.99998           |
| 1065 | 1071 West Monr | 20  | 0     | 41.11112  | 37.77778           |
| 1066 | 1072 West Monr | 63  | 0     | 137.9482  | 120.5689           |
| 1067 | 1073 West Monr | 26  | 0     | 60.00005  | 53.000019800000004 |
| 1068 | 1074 West Monr | 100 | 0     | 290.3227  | 209.6775           |
| 1069 | 1075 West Monr | 135 | 0     | 340.1571  | 261.4958           |
| 1070 | 1076 West Monr | 39  | 0     | 89.14295  | 73.54292           |
| 1071 | 1077 West Monr | 54  | 0     | 146.1175  | 109.05874019999997 |
| 1072 | 1078 West Monr | 80  | 0     | 188.1081  | 155.67564800000002 |
| 1073 | 1079 West Monr | 113 | 0     | 284.08414 | 219.66362331000002 |
| 1074 | 1080 West Monr | 52  | 0     | 133.7143  | 101.8776           |
| 1075 | 1081 West Monr | 85  | 0     | 198.33325 | 165.80237699999998 |
| 1076 | 1082 West Monr | 70  | 0     | 182.42431 | 142.12128700000002 |
| 1077 | 1083 West Monr | 73  | 0     | 198.6028  | 145.9999           |
| 1078 | 1084 West Monr | 63  | 0     | 159.1016  | 125.99994960000001 |
| 1079 | 1085 Hastings  | 39  | 0     | 101.18912 | 77.99995           |
| 1080 | 1086 West Monr | 51  | 0     | 124.31253 | 98.81253           |
| 1081 | 1087 West Monr | 109 | 0     | 251.86423 | 208.4758           |
| 1082 | 1088 West Monr | 87  | 0     | 205.14809 | 168.6296           |
| 1083 | 1089 West Monr | 33  | 0     | 79.199937 | 64.89995           |
| 1084 | 1090 Schroeppe | 6   | 0     | 18.99999  | 13                 |
| 1085 | 1091 Schroeppe | 27  | 0     | 69.99994  | 53.999959499999996 |
| 1086 | 1092 Schroeppe | 18  | 0     | 43.41174  | 33.88234           |
| 1087 | 1093 Schroeppe | 20  | 0     | 57.64707  | 42.35295000000001  |
| 1088 | 1094 Schroeppe | 7   | 0     | 18.99998  | 14.999984999999999 |
| 1089 | 1095 Schroeppe | 76  | 0     | 194.8169  | 145.57751359999997 |
| 1090 | 1096 West Monr | 18  | 0     | 39.375    | 32.625             |
| 1091 | 1097 West Monr | 38  | 0     | 103.44441 | 74.94443600000001  |
| 1092 | 1098 Hastings  | 18  | 0     | 50.00002  | 37.00001159999999  |
| 1093 | 1099 Hastings  | 99  | 0     | 274.883   | 206.4256           |
| 1094 | 1100 Sullivan  | 25  | 0     | 56.250002 | 52.08334           |
| 1095 | 1101 Sullivan  | 22  | 0     | 64.84209  | 46.315772800000005 |
| 1109 | 8001 Geddes    | 0   | 0     | 0         | 0                  |
| 1110 | 8002 Syracuse  | 0   | 0     | 0         | 0                  |
| 1111 | 8003 Onondaga  | 0   | 984   | 984       | 0                  |
| 1112 | 8004 Onondaga  | 0   | 0     | 0         | 0                  |
| 1113 | 8005 Syracuse  | 0   | 20    | 20        | 0                  |
| 1114 | 8006 Syracuse  | 0   | 2596  | 2596      | 0                  |
| 1115 | 8007 Syracuse  | 0   | 0     | 0         | 0                  |
| 1116 | 8008 Syracuse  | 0   | 0     | 0         | 0                  |
| 1117 | 8009 Syracuse  | 0   | 0     | 0         | 0                  |



| TAZ  | Town_City HH  | HH_GQ | pop  | veh  |   |
|------|---------------|-------|------|------|---|
| 1118 | 8010 Dewitt   | 5     | 1281 | 1286 | 5 |
| 1119 | 8011 Syracuse | 0     | 74   | 74   | 0 |
| 1120 | 8012 Syracuse | 0     | 3053 | 3053 | 0 |
| 1121 | 8013 Syracuse | 0     | 0    | 0    | 0 |
| 1122 | 8014 Syracuse | 0     | 0    | 0    | 0 |
| 1123 | 8015 Syracuse | 0     | 0    | 0    | 0 |
| 1124 | 8016 Dewitt   | 0     | 0    | 0    | 0 |



| TAZ | Town_City     | HH17 | HH_GQ | pop17     | pop30     | pop40     | pop50              |
|-----|---------------|------|-------|-----------|-----------|-----------|--------------------|
| 0   | 1 Tully       | 217  | 0     | 526       | 542.96778 | 557.5116  | 574.4793115799997  |
| 1   | 2 Tully       | 316  | 0     | 720.56022 | 745.643   | 766.16530 | 788.9678390199998  |
| 2   | 3 Tully       | 133  | 0     | 362.0001  | 375.60914 | 389.2182  | 402.82719920000005 |
| 3   | 4 Spafford    | 280  | 0     | 685.84216 | 707.8871  | 725.03314 | 744.6286352000002  |
| 4   | 5 Tully       | 303  | 2     | 697.05688 | 699.3508  | 703.9386  | 708.5265           |
| 5   | 6 Fabius      | 125  | 0     | 308       | 315.392   | 322.784   | 332.6400000000001  |
| 6   | 7 Fabius      | 157  | 0     | 399.0004  | 406.6246  | 414.24880 | 424.4144           |
| 7   | 8 Tully       | 112  | 0     | 310.7746  | 330.198   | 346.8467  | 366.27008219999993 |
| 8   | 9 Fabius      | 198  | 0     | 501.0615  | 508.6533  | 516.2451  | 526.3676           |
| 9   | 10 Fabius     | 248  | 0     | 621.99980 | 639.55625 | 654.6046  | 672.1611           |
| 10  | 11 Otisco     | 113  | 0     | 277.0958  | 284.45234 | 291.8089  | 301.6175680500001  |
| 11  | 12 Otisco     | 384  | 0     | 910.1838  | 912.55402 | 917.2946  | 922.0351           |
| 12  | 13 Otisco     | 148  | 0     | 382.4158  | 390.1675  | 397.9192  | 408.2547           |
| 13  | 14 Otisco     | 176  | 0     | 467.0005  | 469.65393 | 474.9608  | 480.26758286000006 |
| 14  | 15 Otisco     | 157  | 0     | 399.4554  | 401.9997  | 407.0883  | 412.1769           |
| 15  | 16 Spafford   | 232  | 0     | 536.3673  | 531.74339 | 529.4315  | 529.4315           |
| 16  | 17 Spafford   | 212  | 0     | 498.4255  | 491.3723  | 486.67015 | 481.968            |
| 17  | 18 Lafayette  | 89   | 0     | 201.00004 | 216.809   | 230.3596  | 243.9102           |
| 18  | 19 Lafayette  | 351  | 0     | 845.9997  | 853.23048 | 860.46124 | 870.1023           |
| 19  | 20 Lafayette  | 154  | 5     | 413.39185 | 421.34753 | 429.3032  | 439.9108           |
| 20  | 21 Lafayette  | 197  | 0     | 482.5505  | 489.899   | 497.2475  | 507.04547328000007 |
| 21  | 22 Pompey     | 239  | 0     | 633.50592 | 630.85527 | 630.85527 | 630.8552712000002  |
| 22  | 23 Pompey     | 245  | 0     | 613.99915 | 619.0114  | 624.02363 | 631.542            |
| 23  | 24 Pompey     | 127  | 0     | 325.9998  | 328.56672 | 333.7006  | 338.8344           |
| 24  | 25 Skaneatele | 400  | 0     | 955.31871 | 960.09530 | 964.8719  | 969.6485           |
| 25  | 26 Skaneatele | 167  | 4     | 378.779   | 383.2674  | 387.7558  | 394.48833789999986 |
| 26  | 27 Lafayette  | 120  | 0     | 270.25186 | 283.76445 | 295.025   | 306.2854           |
| 27  | 28 Lafayette  | 55   | 0     | 151.0001  | 156.4911  | 161.98197 | 170.21834640000003 |
| 28  | 29 Lafayette  | 251  | 0     | 539.148   | 541.29599 | 545.59200 | 549.8880000000001  |
| 29  | 30 Pompey     | 120  | 0     | 286.6112  | 298.5533  | 308.107   | 317.6607           |
| 30  | 31 Pompey     | 89   | 5     | 227.9685  | 230.4738  | 235.4843  | 240.49487240000005 |
| 31  | 32 Pompey     | 80   | 0     | 200.4937  | 208.0123  | 215.5308  | 225.55546200000003 |
| 32  | 33 Pompey     | 150  | 0     | 392.00053 | 410.29389 | 423.3606  | 439.0406           |
| 33  | 34 Pompey     | 59   | 0     | 140.3794  | 147.51733 | 154.65527 | 164.17252109999998 |
| 34  | 35 Pompey     | 51   | 0     | 122.59609 | 127.4038  | 132.2115  | 139.423            |
| 35  | 36 Marcellus  | 102  | 0     | 252.52449 | 262.4274  | 272.3303  | 282.2333           |
| 36  | 37 Marcellus  | 23   | 0     | 43.00001  | 44.869572 | 46.73914  | 48.608703000000006 |
| 37  | 38 Marcellus  | 80   | 0     | 194.5679  | 201.8642  | 209.1605  | 218.8889           |
| 38  | 39 Lafayette  | 253  | 0     | 537.87340 | 552.7553  | 565.5112  | 580.393            |
| 39  | 40 Skaneatele | 293  | 3     | 636.51256 | 658.1342  | 675.43143 | 694.8908607999999  |
| 40  | 41 Skaneatele | 17   | 0     | 37.1875   | 37.1875   | 37.1875   | 37.1875            |
| 41  | 42 Skaneatele | 212  | 0     | 517.28000 | 514.84    | 512.4     | 512.4              |
| 42  | 43 Onondaga   | 120  | 0     | 290.9998  | 293.4248  | 298.27476 | 303.1248           |



| TAZ | Town_City     | HH17 | HH_GQ | pop17     | pop30     | pop40     | pop50              |
|-----|---------------|------|-------|-----------|-----------|-----------|--------------------|
| 43  | 44 Onondaga   | 216  | 0     | 564.6144  | 567.2284  | 572.4563  | 577.6842           |
| 44  | 45 Lafayette  | 83   | 0     | 204       | 208.9157  | 213.8314  | 218.747            |
| 45  | 46 Lafayette  | 76   | 0     | 193.9999  | 204.2104  | 214.421   | 224.63147519999995 |
| 46  | 47 Pompey     | 79   | 0     | 195.9999  | 203.44291 | 208.4049  | 215.848            |
| 47  | 48 Pompey     | 272  | 7     | 706.01018 | 723.9994  | 739.4188  | 754.8381064000001  |
| 48  | 49 Onondaga   | 72   | 4     | 190.0778  | 192.6622  | 197.8311  | 202.9999           |
| 49  | 50 Onondaga   | 92   | 0     | 208.9999  | 211.27161 | 215.81509 | 220.3586           |
| 50  | 51 Onondaga   | 225  | 0     | 548.0004  | 548.0004  | 548.0004  | 548.0004           |
| 51  | 52 Onondaga   | 6    | 0     | 13.714271 | 15.99998  | 20.57141  | 25.142832000000002 |
| 52  | 53 Marcellus  | 111  | 0     | 283.4466  | 298.768   | 311.5359  | 324.30375575999994 |
| 53  | 54 Marcellus  | 183  | 0     | 462.52779 | 492.8575  | 515.6048  | 540.8795           |
| 54  | 55 Marcellus  | 83   | 0     | 199.59517 | 211.619   | 223.64278 | 235.66658780000003 |
| 55  | 56 Onondaga   | 306  | 0     | 436.00052 | 436.00052 | 436.00052 | 436.00052592000014 |
| 56  | 57 Skaneatele | 241  | 0     | 581.0001  | 578.5894  | 576.1786  | 576.1786           |
| 57  | 58 Skaneatele | 185  | 0     | 439.63508 | 437.2587  | 434.8823  | 434.8823           |
| 58  | 59 Skaneatele | 494  | 0     | 953.9312  | 950.0692  | 946.2071  | 944.2761           |
| 59  | 60 Onondaga   | 189  | 0     | 442.9997  | 445.3437  | 447.6876  | 450.0315           |
| 60  | 61 Lafayette  | 241  | 0     | 552.0001  | 618.4234  | 671.10390 | 723.7844           |
| 61  | 62 Marcellus  | 109  | 0     | 270.5183  | 287.891   | 302.782   | 320.1547           |
| 62  | 63 Onondaga   | 361  | 0     | 900.0001  | 902.49316 | 907.4793  | 912.4655           |
| 63  | 64 Skaneatele | 150  | 0     | 381.5433  | 378.9997  | 378.9997  | 378.9997           |
| 64  | 65 Skaneatele | 318  | 0     | 776.4422  | 830.15837 | 871.66629 | 913.1742           |
| 65  | 66 Skaneatele | 42   | 0     | 116.2325  | 116.2325  | 116.2325  | 116.2325           |
| 66  | 67 Onondaga   | 202  | 0     | 502.5119  | 495.0488  | 490.0735  | 485.0981           |
| 67  | 68 Pompey     | 153  | 0     | 424.77593 | 471.97326 | 510.8416  | 549.7100333999998  |
| 68  | 69 Pompey     | 237  | 6     | 612.1153  | 683.72387 | 739.98774 | 798.8091           |
| 69  | 70 Pompey     | 316  | 0     | 953.2144  | 959.2474  | 965.2804  | 974.3299           |
| 70  | 71 Lafayette  | 125  | 0     | 310.97546 | 358.2437  | 395.5608  | 435.3656           |
| 71  | 72 Pompey     | 127  | 0     | 306.9998  | 306.9998  | 306.9998  | 306.9998           |
| 72  | 73 Pompey     | 195  | 0     | 596.9382  | 655.1014  | 701.01970 | 746.9380216000002  |
| 73  | 74 Marcellus  | 413  | 0     | 821.0125  | 832.94001 | 842.8796  | 852.8192501400001  |
| 74  | 75 Onondaga   | 12   | 0     | 20.72726  | 20.72726  | 20.72726  | 20.72726           |
| 75  | 76 Onondaga   | 256  | 0     | 632.0615  | 624.6545  | 619.7165  | 617.2476           |
| 76  | 77 Onondaga   | 212  | 0     | 492.3218  | 494.6441  | 499.2887  | 503.9332           |
| 77  | 78 Marcellus  | 111  | 0     | 317.8638  | 357.95469 | 392.31834 | 426.682            |
| 78  | 79 Marcellus  | 17   | 0     | 40.375    | 40.375    | 40.375    | 42.75              |
| 79  | 80 Marcellus  | 15   | 0     | 32.8125   | 32.8125   | 32.8125   | 35                 |
| 80  | 81 Onondaga   | 425  | 0     | 955.2481  | 941.76229 | 932.7717  | 926.0288           |
| 81  | 82 Onondaga   | 286  | 0     | 754.4659  | 770.2939  | 783.4838  | 796.6737923800001  |
| 82  | 83 Skaneatele | 493  | 0     | 1186.593  | 1208.2550 | 1227.51   | 1246.765           |
| 83  | 84 Manlius    | 16   | 0     | 47.999991 | 47.999991 | 47.999991 | 47.99999199999999  |
| 84  | 85 Manlius    | 145  | 0     | 424.93035 | 433.722   | 439.5831  | 448.3748           |
| 85  | 86 Manlius    | 345  | 0     | 766.9995  | 771.44590 | 775.8923  | 780.3387           |



| TAZ | Town_City     | HH17 | HH_GQ | pop17     | pop30     | pop40     | pop50               |
|-----|---------------|------|-------|-----------|-----------|-----------|---------------------|
| 86  | 87 Manlius    | 215  | 0     | 495       | 501.9069  | 506.51157 | 513.4186            |
| 87  | 88 Marcellus  | 200  | 0     | 490.09937 | 490.09937 | 492.5499  | 495.000365719999993 |
| 88  | 89 Marcellus  | 207  | 0     | 415.0045  | 415.0045  | 415.0045  | 417.0094            |
| 89  | 90 Dewitt     | 373  | 0     | 999.84757 | 1090.986  | 1160.6809 | 1233.056            |
| 90  | 91 Dewitt     | 50   | 0     | 147       | 167.58000 | 185.22000 | 205.8               |
| 91  | 92 Marcellus  | 142  | 0     | 352.00008 | 369.3522  | 384.2254  | 401.5776            |
| 92  | 93 Marcellus  | 156  | 0     | 406.99978 | 443.52540 | 472.22410 | 503.5318            |
| 93  | 94 Marcellus  | 133  | 0     | 335.00008 | 357.66925 | 375.30084 | 392.9324            |
| 94  | 95 Onondaga   | 630  | 4     | 1571.2399 | 1693.136  | 1787.6683 | 1882.2002422000003  |
| 95  | 96 Syracuse   | 758  | 0     | 1652.18   | 1647.8206 | 1645.641  | 1645.641            |
| 96  | 97 Manlius    | 62   | 0     | 122.03170 | 135.80947 | 147.61899 | 159.42851729999995  |
| 97  | 98 Manlius    | 619  | 0     | 1373.852  | 1378.2913 | 1382.73   | 1387.169            |
| 98  | 99 Syracuse   | 763  | 0     | 1277.001  | 1273.6532 | 1271.98   | 1271.98             |
| 99  | 100 Syracuse  | 311  | 7     | 640.7729  | 639.73508 | 640.73508 | 641.7350872000001   |
| 100 | 101 Onondaga  | 456  | 7     | 1261.738  | 1261.738  | 1261.738  | 1261.738            |
| 101 | 102 Syracuse  | 326  | 24    | 768.8773  | 766.59243 | 767.59243 | 768.5924382499999   |
| 102 | 103 Marcellus | 242  | 0     | 610.99979 | 679.1692  | 732.1898  | 787.7353            |
| 103 | 104 Marcellus | 152  | 0     | 395.40518 | 434.4254  | 465.6416  | 499.4591846400001   |
| 104 | 105 Manlius   | 710  | 1     | 1590.001  | 1596.7154 | 1603.43   | 1612.3816359999998  |
| 105 | 106 Dewitt    | 236  | 6     | 536.0172  | 578.6881  | 612.3756  | 646.0631460000002   |
| 106 | 107 Syracuse  | 33   | 0     | 58.99996  | 58.99996  | 58.99996  | 58.99996            |
| 107 | 108 Syracuse  | 40   | 0     | 96        | 96        | 96        | 96                  |
| 108 | 109 Syracuse  | 290  | 0     | 641       | 638.7896  | 638.7896  | 638.7896            |
| 109 | 110 Syracuse  | 49   | 0     | 103.00000 | 103.00000 | 103.00000 | 103.00000409999998  |
| 110 | 111 Onondaga  | 241  | 1     | 690.00024 | 801.49820 | 887.26586 | 975.8925            |
| 111 | 112 Onondaga  | 171  | 0     | 482.9998  | 536.6665  | 579.0349  | 624.2278            |
| 112 | 113 Onondaga  | 11   | 0     | 31.99998  | 34.90907  | 37.818155 | 43.636333500000006  |
| 113 | 114 Dewitt    | 35   | 0     | 83.382397 | 95.29417  | 104.8236  | 114.353             |
| 114 | 115 Manlius   | 791  | 0     | 2182.93   | 2182.93   | 2182.93   | 2182.93             |
| 115 | 116 Onondaga  | 541  | 10    | 1502.413  | 1665.1714 | 1789.3093 | 1916.206            |
| 116 | 117 Onondaga  | 643  | 0     | 1781.771  | 1801.1685 | 1817.795  | 1837.192            |
| 117 | 118 Syracuse  | 696  | 0     | 852.00027 | 849.1037  | 847.4313  | 846.9830327100003   |
| 118 | 119 Syracuse  | 705  | 0     | 1428.9995 | 1408.73   | 1392.514  | 1378.326            |
| 119 | 120 Manlius   | 222  | 0     | 561.0004  | 712.6221  | 831.3924  | 950.1628            |
| 120 | 121 Syracuse  | 314  | 0     | 777.04989 | 754.7778  | 737.455   | 722.6069            |
| 121 | 122 Syracuse  | 127  | 0     | 275       | 272.83467 | 272.83467 | 272.83467455999994  |
| 122 | 123 Syracuse  | 331  | 0     | 731.35269 | 713.6765  | 700.4194  | 689.3717            |
| 123 | 124 Onondaga  | 78   | 0     | 172.2077  | 172.2077  | 174.41549 | 176.62328800000003  |
| 124 | 125 Manlius   | 390  | 0     | 831.62997 | 827.3652  | 825.23281 | 823.1004324400002   |
| 125 | 126 Manlius   | 156  | 0     | 309.40007 | 307.4167  | 305.4334  | 305.4334            |
| 126 | 127 Manlius   | 373  | 0     | 689.64792 | 685.9501  | 684.10116 | 682.2522401399998   |
| 127 | 128 Syracuse  | 276  | 7     | 633.8721  | 615.70194 | 602.07428 | 590.7179062999999   |
| 128 | 129 Dewitt    | 2    | 0     | 3         | 3         | 3         | 3                   |



| TAZ | Town_City    | HH17 | HH_GQ | pop17     | pop30     | pop40     | pop50              |
|-----|--------------|------|-------|-----------|-----------|-----------|--------------------|
| 129 | 130 Syracuse | 116  | 0     | 288.5127  | 288.5127  | 288.5127  | 288.5127           |
| 130 | 131 Syracuse | 86   | 0     | 207.5864  | 207.5864  | 207.5864  | 207.5864           |
| 131 | 132 Syracuse | 89   | 0     | 213.80453 | 213.80453 | 213.80453 | 213.80453980000001 |
| 132 | 133 Onondaga | 203  | 14    | 416.2406  | 467.7591  | 507.38868 | 548.9998           |
| 133 | 134 Manlius  | 266  | 0     | 520.9582  | 520.9582  | 520.9582  | 522.9167           |
| 134 | 135 Manlius  | 185  | 0     | 446.4128  | 446.4128  | 446.4128  | 448.82587524000013 |
| 135 | 136 Manlius  | 198  | 0     | 421.1269  | 429.6345  | 436.01523 | 444.52285240000003 |
| 136 | 137 Manlius  | 196  | 0     | 555.3336  | 691.3336  | 796.16700 | 901.0004           |
| 137 | 138 Onondaga | 383  | 0     | 1003.62   | 1019.342  | 1032.4443 | 1048.167           |
| 138 | 139 Onondaga | 119  | 0     | 284.9995  | 287.3945  | 292.1844  | 296.9743           |
| 139 | 140 Onondaga | 0    | 0     | 0         | 0         | 0         | 0                  |
| 140 | 141 Onondaga | 79   | 0     | 130.99996 | 132.65819 | 134.3164  | 135.97464680000002 |
| 141 | 142 Onondaga | 451  | 6     | 750.1003  | 764.94927 | 778.14838 | 791.3475067199997  |
| 142 | 143 Syracuse | 94   | 1     | 250.3471  | 250.3471  | 250.3471  | 250.3471           |
| 143 | 144 Syracuse | 210  | 14    | 498.9777  | 485.12119 | 475.88352 | 468.9553           |
| 144 | 145 Syracuse | 362  | 0     | 944.0007  | 923.1388  | 907.49240 | 894.4537           |
| 145 | 146 Syracuse | 24   | 0     | 45.913051 | 45.913051 | 45.913051 | 45.91305120000001  |
| 146 | 147 Syracuse | 15   | 0     | 38.4375   | 38.4375   | 38.4375   | 38.4375            |
| 147 | 148 Syracuse | 836  | 0     | 1445.2708 | 1441.8132 | 1440.0844 | 1438.3556678400007 |
| 148 | 149 Syracuse | 291  | 0     | 695.00007 | 680.6702  | 668.72859 | 659.1753263999999  |
| 149 | 150 Syracuse | 487  | 5     | 1310.2783 | 1283.476  | 1264.714  | 1245.952           |
| 150 | 151 Syracuse | 192  | 6     | 450.12195 | 447.8088  | 445.4957  | 446.4957           |
| 151 | 152 Onondaga | 6    | 0     | 19.000038 | 22.166711 | 25.33338  | 31.666729999999998 |
| 152 | 153 Onondaga | 13   | 0     | 29.7143   | 29.7143   | 32.000009 | 34.28573           |
| 153 | 154 Manlius  | 82   | 0     | 146.79021 | 146.79021 | 148.5803  | 150.3705           |
| 154 | 155 Syracuse | 295  | 4     | 598.09673 | 596.0828  | 596.0828  | 597.0828           |
| 155 | 156 Dewitt   | 445  | 0     | 1018.1510 | 1029.591  | 1041.031  | 1052.4707079999996 |
| 156 | 157 Syracuse | 158  | 0     | 427.0001  | 424.2976  | 424.2976  | 424.2976           |
| 157 | 158 Syracuse | 283  | 4     | 748.84103 | 727.78545 | 714.6257  | 701.4659867999999  |
| 158 | 159 Dewitt   | 241  | 0     | 603.01339 | 603.01339 | 603.01339 | 603.0133974800002  |
| 159 | 160 Dewitt   | 313  | 0     | 781.4967  | 788.987   | 793.98062 | 801.4710088200002  |
| 160 | 161 Dewitt   | 242  | 0     | 543.4384  | 541.19278 | 541.19278 | 541.1927812000001  |
| 161 | 162 Dewitt   | 59   | 0     | 139.99984 | 139.99984 | 139.99984 | 139.99984919999997 |
| 162 | 163 Onondaga | 361  | 0     | 713.02469 | 829.5578  | 918.43901 | 1009.295           |
| 163 | 164 Onondaga | 353  | 0     | 945.9997  | 975.4785  | 999.5974  | 1026.396           |
| 164 | 165 Onondaga | 100  | 0     | 250.5049  | 268.04021 | 283.07050 | 300.6058           |
| 165 | 166 Manlius  | 103  | 0     | 231.9999  | 234.2524  | 236.5048  | 238.75722807999998 |
| 166 | 167 Syracuse | 127  | 0     | 324.5557  | 322.00016 | 322.00016 | 322.00016057999994 |
| 167 | 168 Syracuse | 19   | 0     | 44.70592  | 44.70592  | 44.70592  | 44.70592           |
| 168 | 169 Dewitt   | 31   | 0     | 73.625    | 73.625    | 76        | 78.375             |
| 169 | 170 Syracuse | 177  | 0     | 461.39313 | 445.7527  | 435.32573 | 427.5055           |
| 170 | 171 Syracuse | 700  | 0     | 1580.376  | 1575.86   | 1573.6025 | 1573.6025487700006 |
| 171 | 172 Camillus | 196  | 0     | 532.28428 | 573.02032 | 605.6092  | 640.9137290399998  |



| TAZ | Town_City    | HH17 | HH_GQ | pop17     | pop30     | pop40     | pop50              |
|-----|--------------|------|-------|-----------|-----------|-----------|--------------------|
| 172 | 173 Syracuse | 251  | 0     | 599.7794  | 585.4421  | 573.4943  | 563.936            |
| 173 | 174 Syracuse | 34   | 0     | 97.27775  | 97.27775  | 97.27775  | 97.27775           |
| 174 | 175 Manlius  | 54   | 0     | 153.1636  | 150.32723 | 150.32723 | 150.32723900000005 |
| 175 | 176 Manlius  | 126  | 0     | 333.648   | 407.792   | 466.048   | 526.952            |
| 176 | 177 Syracuse | 265  | 9     | 603.06574 | 600.824   | 600.824   | 600.824            |
| 177 | 178 Manlius  | 522  | 0     | 1212.322  | 1216.9667 | 1221.612  | 1228.5790388500004 |
| 178 | 179 Dewitt   | 340  | 4     | 845.47511 | 843.00019 | 843.00019 | 843.0001919800003  |
| 179 | 180 Syracuse | 144  | 0     | 293.00002 | 290.9653  | 290.9653  | 290.9653           |
| 180 | 181 Syracuse | 201  | 0     | 326.9999  | 325.37306 | 325.37306 | 325.3730699999987  |
| 181 | 182 Syracuse | 76   | 0     | 205.29867 | 205.29867 | 205.29867 | 205.29867840000003 |
| 182 | 183 Syracuse | 33   | 0     | 88.323549 | 88.323549 | 88.323549 | 88.32354959999999  |
| 183 | 184 Syracuse | 61   | 1     | 174.00011 | 174.00011 | 174.00011 | 174.00011750000004 |
| 184 | 185 Dewitt   | 268  | 9     | 601.31883 | 601.31883 | 601.31883 | 603.5289780999999  |
| 185 | 186 Syracuse | 24   | 0     | 53.00003  | 53.00003  | 53.00003  | 53.00003           |
| 186 | 187 Manlius  | 646  | 5     | 1173.7628 | 1175.572  | 1177.381  | 1179.1905880099996 |
| 187 | 188 Manlius  | 113  | 0     | 289.5627  | 287.0002  | 287.0002  | 287.0002           |
| 188 | 189 Syracuse | 218  | 0     | 562.0002  | 559.42220 | 559.42220 | 559.4222046699998  |
| 189 | 190 Syracuse | 101  | 0     | 271.31363 | 271.31363 | 271.31363 | 271.3136396599999  |
| 190 | 191 Onondaga | 373  | 0     | 881.3634  | 886.08921 | 890.81501 | 897.9037327999997  |
| 191 | 192 Syracuse | 379  | 0     | 970.9998  | 968.4378  | 965.8758  | 965.8758           |
| 192 | 193 Syracuse | 143  | 0     | 346.4224  | 343.99990 | 343.99990 | 343.9999061000001  |
| 193 | 194 Elbridge | 135  | 5     | 323.56154 | 328.28097 | 333.0004  | 340.07954988000006 |
| 194 | 195 Elbridge | 217  | 0     | 531.55043 | 541.34859 | 548.6972  | 558.4953844800001  |
| 195 | 196 Syracuse | 194  | 0     | 369.0002  | 367.09816 | 367.09816 | 367.0981667199998  |
| 196 | 197 Onondaga | 1    | 0     | 2         | 2         | 2         | 2                  |
| 197 | 198 Onondaga | 24   | 0     | 52.173947 | 76.087007 | 93.47832  | 113.0436           |
| 198 | 199 Syracuse | 95   | 0     | 253.3333  | 253.3333  | 253.3333  | 253.3333           |
| 199 | 200 Syracuse | 167  | 0     | 455.7293  | 453.0004  | 453.0004  | 453.0004           |
| 200 | 201 Syracuse | 217  | 0     | 562.59294 | 547.0374  | 536.667   | 528.8892167999999  |
| 201 | 202 Manlius  | 450  | 0     | 880.95744 | 882.91512 | 884.87281 | 888.7882           |
| 202 | 203 Syracuse | 145  | 0     | 328.99999 | 326.731   | 326.731   | 326.731            |
| 203 | 204 Syracuse | 281  | 5     | 720.7185  | 695.24808 | 677.4188  | 663.1365522000001  |
| 204 | 205 Syracuse | 12   | 0     | 30.545443 | 30.545443 | 30.545443 | 30.54544320000001  |
| 205 | 206 Syracuse | 99   | 0     | 262.9999  | 262.9999  | 262.9999  | 262.9999           |
| 206 | 207 Syracuse | 91   | 0     | 225.52182 | 225.52182 | 225.52182 | 225.52182380000005 |
| 207 | 208 Dewitt   | 576  | 4     | 1393.352  | 1400.5881 | 1407.824  | 1415.061           |
| 208 | 209 Onondaga | 322  | 0     | 590.0003  | 593.6649  | 597.32950 | 600.9941           |
| 209 | 210 Onondaga | 76   | 5     | 180.4568  | 180.4568  | 182.7654  | 185.0741           |
| 210 | 211 Syracuse | 262  | 8     | 557.13639 | 555.0405  | 553.94451 | 554.9445169999998  |
| 211 | 212 Syracuse | 483  | 5     | 1165.583  | 1163.18   | 1160.777  | 1160.777           |
| 212 | 213 Camillus | 225  | 0     | 560.9868  | 645.75818 | 713.0766  | 780.3950217899999  |
| 213 | 214 Camillus | 294  | 0     | 798.4534  | 1045.594  | 1238.418  | 1431.241           |
| 214 | 215 Camillus | 41   | 0     | 56.99998  | 58.390218 | 59.780461 | 62.56095           |



| TAZ | Town_City    | HH17 | HH_GQ | pop17     | pop30     | pop40     | pop50              |
|-----|--------------|------|-------|-----------|-----------|-----------|--------------------|
| 215 | 216 Onondaga | 128  | 1     | 283.58461 | 285.7923  | 288.00000 | 290.2076965400001  |
| 216 | 217 Syracuse | 258  | 4     | 540.67939 | 538.59924 | 538.59924 | 538.5992438999999  |
| 217 | 218 Syracuse | 173  | 0     | 343.9995  | 342.0111  | 342.0111  | 342.0111           |
| 218 | 219 Dewitt   | 124  | 0     | 337.00009 | 337.00009 | 337.00009 | 337.0000972800001  |
| 219 | 220 Dewitt   | 276  | 5     | 598.10633 | 598.10633 | 600.2553  | 602.4042079999998  |
| 220 | 221 Syracuse | 170  | 0     | 421.00020 | 408.61784 | 398.71195 | 391.28254439999995 |
| 221 | 222 Syracuse | 158  | 0     | 443.0005  | 440.1967  | 440.1967  | 440.1967           |
| 222 | 223 Syracuse | 120  | 21    | 306.95702 | 304.574   | 304.574   | 304.574            |
| 223 | 224 Syracuse | 57   | 0     | 142.00005 | 142.00005 | 142.00005 | 142.00005869999998 |
| 224 | 225 Syracuse | 74   | 0     | 195.9999  | 195.9999  | 195.9999  | 195.9999           |
| 225 | 226 Manlius  | 466  | 6     | 1187.784  | 1187.784  | 1187.784  | 1187.784           |
| 226 | 227 Syracuse | 68   | 42    | 238.5819  | 233.8     | 231.9091  | 232.9091           |
| 227 | 228 Manlius  | 184  | 0     | 409.12953 | 406.90600 | 404.6825  | 404.6825           |
| 228 | 229 Onondaga | 73   | 0     | 147.01388 | 147.01388 | 147.01388 | 149.02777859999998 |
| 229 | 230 Onondaga | 130  | 0     | 255.0001  | 255.0001  | 256.96159 | 258.92313612000004 |
| 230 | 231 Syracuse | 322  | 0     | 835.59588 | 820.02577 | 807.0507  | 796.6706088899998  |
| 231 | 232 Syracuse | 77   | 0     | 184.9999  | 184.9999  | 184.9999  | 184.9999           |
| 232 | 233 Syracuse | 94   | 54    | 256.068   | 251.61902 | 249.31970 | 248.0204           |
| 233 | 234 Syracuse | 385  | 0     | 971.71582 | 969.19188 | 966.6679  | 966.6679           |
| 234 | 235 Syracuse | 36   | 0     | 72        | 70        | 70        | 71                 |
| 235 | 236 Syracuse | 50   | 0     | 137.7552  | 137.7552  | 137.7552  | 137.7552           |
| 236 | 237 Dewitt   | 111  | 0     | 276.509   | 276.509   | 276.509   | 279                |
| 237 | 238 Dewitt   | 154  | 0     | 351.0002  | 353.27944 | 355.55866 | 357.83788854000005 |
| 238 | 239 Syracuse | 534  | 0     | 1455.25   | 1452.525  | 1449.8    | 1449.8             |
| 239 | 240 Geddes   | 15   | 7     | 31.545471 | 31.545471 | 31.545471 | 31.545471999999997 |
| 240 | 241 Manlius  | 324  | 0     | 697.1516  | 692.8482  | 690.6965  | 690.6965           |
| 241 | 242 Syracuse | 60   | 0     | 116.0656  | 116.0656  | 116.0656  | 116.0656           |
| 242 | 243 Syracuse | 38   | 0     | 104       | 104       | 104       | 104                |
| 243 | 244 Manlius  | 498  | 0     | 1154.981  | 1187.451  | 1215.282  | 1243.113           |
| 244 | 245 Syracuse | 170  | 0     | 427.9997  | 412.89382 | 400.30560 | 390.23502149999996 |
| 245 | 246 Syracuse | 169  | 0     | 395.65909 | 381.612   | 369.9061  | 360.5414           |
| 246 | 247 Syracuse | 0    | 0     | 0         | 0         | 0         | 0                  |
| 247 | 248 Syracuse | 83   | 0     | 291.4883  | 291.4883  | 291.4883  | 291.4883           |
| 248 | 249 Syracuse | 290  | 16    | 644.49184 | 629.32135 | 618.4853  | 607.6492           |
| 249 | 250 Syracuse | 206  | 0     | 522.53617 | 519.9996  | 519.9996  | 519.9996           |
| 250 | 251 Syracuse | 149  | 0     | 390.0003  | 387.38289 | 387.38289 | 387.38289600000013 |
| 251 | 252 Syracuse | 85   | 0     | 247.99998 | 245.08233 | 245.08233 | 246.08233959999998 |
| 252 | 253 Syracuse | 140  | 6     | 322.43824 | 320.17797 | 320.17797 | 321.17797480000013 |
| 253 | 254 Dewitt   | 124  | 9     | 284.2427  | 284.2427  | 286.4624  | 288.68207400000006 |
| 254 | 255 Dewitt   | 270  | 4     | 691.36213 | 691.36213 | 693.90792 | 696.4537           |
| 255 | 256 Camillus | 1304 | 4     | 2806.2974 | 2793.403  | 2784.807  | 2778.36            |
| 256 | 257 Camillus | 801  | 0     | 1959.554  | 1949.768  | 1942.4292 | 1935.09            |
| 257 | 258 Geddes   | 452  | 0     | 988.8123  | 993.1876  | 997.5629  | 1004.126           |



| TAZ | Town_City    | HH17 | HH_GQ | pop17     | pop30     | pop40     | pop50              |
|-----|--------------|------|-------|-----------|-----------|-----------|--------------------|
| 258 | 259 Geddes   | 1    | 0     | 2         | 2         | 2         | 2                  |
| 259 | 260 Syracuse | 65   | 5     | 111.7856  | 111.7856  | 111.7856  | 111.7856           |
| 260 | 261 Syracuse | 494  | 0     | 1095.782  | 1093.564  | 1091.3453 | 1091.3453964000003 |
| 261 | 262 Syracuse | 107  | 0     | 307.87698 | 307.87698 | 307.87698 | 307.87698285999994 |
| 262 | 263 Syracuse | 123  | 10    | 348.4816  | 345.72970 | 342.9778  | 343.9778           |
| 263 | 264 Camillus | 159  | 0     | 312.9999  | 312.9999  | 314.9684  | 316.937            |
| 264 | 265 Camillus | 262  | 0     | 568.9999  | 568.9999  | 571.1717  | 573.3434           |
| 265 | 266 Camillus | 165  | 7     | 325.55487 | 325.55487 | 327.48550 | 329.4161           |
| 266 | 267 Camillus | 582  | 4     | 1316.237  | 1309.4726 | 1304.963  | 1300.454           |
| 267 | 268 Geddes   | 503  | 0     | 1180.0004 | 1180.0004 | 1180.0004 | 1180.0004409899998 |
| 268 | 269 Syracuse | 1    | 0     | 1         | 1         | 1         | 1                  |
| 269 | 270 Syracuse | 0    | 0     | 0         | 0         | 0         | 0                  |
| 270 | 271 Syracuse | 417  | 2     | 1072.864  | 1049.751  | 1031.775  | 1016.3672561500003 |
| 271 | 272 Syracuse | 206  | 33    | 445.8656  | 426.8236  | 412.79    | 400.7606           |
| 272 | 273 Syracuse | 4    | 51    | 64        | 64        | 64        | 64                 |
| 273 | 274 Syracuse | 295  | 49    | 596.12242 | 581.2852  | 570.1573  | 559.0294           |
| 274 | 275 Camillus | 63   | 0     | 136       | 133.8412  | 133.8412  | 133.8412           |
| 275 | 276 Syracuse | 265  | 0     | 602.9992  | 600.72376 | 600.72376 | 600.7237631999999  |
| 276 | 277 Syracuse | 179  | 3     | 352.1966  | 350.2458  | 350.2458  | 351.2458           |
| 277 | 278 Syracuse | 85   | 0     | 173.95329 | 173.95329 | 173.95329 | 173.95329049999995 |
| 278 | 279 Syracuse | 0    | 668   | 668       | 681       | 691       | 701                |
| 279 | 280 Syracuse | 1    | 658   | 660.7246  | 678.7246  | 692.7246  | 707.7246           |
| 280 | 281 Syracuse | 340  | 20    | 789.47304 | 762.31517 | 741.9468  | 723.8415           |
| 281 | 282 Syracuse | 0    | 0     | 0         | 0         | 0         | 0                  |
| 282 | 283 Syracuse | 280  | 31    | 802.89168 | 796.6214  | 793.1079  | 789.5943934600001  |
| 283 | 284 Syracuse | 142  | 700   | 1016      | 1011.775  | 1010.775  | 1010.775           |
| 284 | 285 Syracuse | 265  | 6     | 701.87026 | 688.74063 | 678.2369  | 670.3592           |
| 285 | 286 Syracuse | 193  | 0     | 438.27069 | 435.99985 | 435.99985 | 435.99985920000006 |
| 286 | 287 Elbridge | 254  | 0     | 639.5177  | 649.5888  | 659.66    | 669.7310946199998  |
| 287 | 288 Elbridge | 217  | 4     | 522.06324 | 526.838   | 531.6128  | 538.7749590400001  |
| 288 | 289 Elbridge | 218  | 0     | 535.5439  | 542.9137  | 550.2836  | 560.1101           |
| 289 | 290 Syracuse | 151  | 42    | 468.1204  | 463.47642 | 458.8324  | 458.0105           |
| 290 | 291 Geddes   | 420  | 8     | 892.15905 | 892.15905 | 892.15905 | 892.1590519999999  |
| 291 | 292 Syracuse | 12   | 0     | 25.000010 | 25.000010 | 25.000010 | 25.000010400000008 |
| 292 | 293 Syracuse | 0    | 0     | 0         | 0         | 0         | 0                  |
| 293 | 294 Syracuse | 29   | 0     | 61.99996  | 61.99996  | 61.99996  | 61.99996           |
| 294 | 295 Syracuse | 272  | 0     | 552.0295  | 550       | 550       | 550                |
| 295 | 296 Syracuse | 337  | 0     | 812.99982 | 810.58736 | 810.58736 | 810.5873664000002  |
| 296 | 297 Geddes   | 444  | 0     | 990.2308  | 994.6913  | 999.1517  | 1003.612           |
| 297 | 298 Syracuse | 0    | 428   | 428       | 442       | 453       | 465                |
| 298 | 299 Syracuse | 0    | 59    | 59        | 60        | 62        | 64                 |
| 299 | 300 Dewitt   | 310  | 0     | 709.71106 | 709.71106 | 709.71106 | 709.7110643000002  |
| 300 | 301 Syracuse | 637  | 1     | 1006.562  | 986.0404  | 970.2545  | 956.0472           |



| TAZ | Town_City    | HH17 | HH_GQ | pop17     | pop30     | pop40     | pop50              |
|-----|--------------|------|-------|-----------|-----------|-----------|--------------------|
| 301 | 302 Syracuse | 70   | 0     | 229.9999  | 229.9999  | 229.9999  | 229.9999           |
| 302 | 303 Syracuse | 0    | 0     | 0         | 0         | 0         | 0                  |
| 303 | 304 Syracuse | 41   | 0     | 69.999923 | 69.999923 | 69.999923 | 69.99992320000001  |
| 304 | 305 Syracuse | 47   | 0     | 101.15220 | 101.15220 | 101.15220 | 101.15220620000001 |
| 305 | 306 Syracuse | 21   | 0     | 56.31824  | 56.31824  | 56.31824  | 56.31824           |
| 306 | 307 Syracuse | 21   | 27    | 54.999988 | 57.33332  | 59.99999  | 63.99999           |
| 307 | 308 Syracuse | 0    | 0     | 0         | 0         | 0         | 0                  |
| 308 | 309 Syracuse | 0    | 70    | 70        | 71        | 73        | 75                 |
| 309 | 310 Syracuse | 1    | 0     | 1         | 1         | 1         | 1                  |
| 310 | 311 Syracuse | 414  | 6     | 941.1876  | 938.9287  | 936.6698  | 937.6698           |
| 311 | 312 Syracuse | 0    | 0     | 0         | 0         | 0         | 0                  |
| 312 | 313 Syracuse | 0    | 0     | 0         | 0         | 0         | 0                  |
| 313 | 314 Syracuse | 0    | 96    | 96        | 101       | 105       | 109                |
| 314 | 315 Syracuse | 0    | 0     | 0         | 0         | 0         | 0                  |
| 315 | 316 Syracuse | 0    | 0     | 0         | 0         | 0         | 0                  |
| 316 | 317 Syracuse | 33   | 210   | 276       | 280       | 284       | 291                |
| 317 | 318 Syracuse | 6    | 254   | 266.9961  | 273.9961  | 279.9961  | 286.9961           |
| 318 | 319 Syracuse | 0    | 0     | 0         | 0         | 0         | 0                  |
| 319 | 320 Syracuse | 198  | 0     | 520.0003  | 504.2427  | 493.7376  | 485.8588           |
| 320 | 321 Syracuse | 72   | 0     | 181       | 181       | 181       | 181                |
| 321 | 322 Syracuse | 62   | 0     | 172.9999  | 172.9999  | 172.9999  | 172.9999           |
| 322 | 323 Syracuse | 92   | 0     | 246.3227  | 246.3227  | 246.3227  | 246.3227           |
| 323 | 324 Manlius  | 241  | 0     | 593.57446 | 637.9078  | 672.38933 | 709.3338047999999  |
| 324 | 325 Manlius  | 136  | 0     | 279.9418  | 316.9929  | 345.8105  | 376.68639479999985 |
| 325 | 326 Syracuse | 1    | 82    | 84        | 85        | 88        | 91                 |
| 326 | 327 Syracuse | 65   | 66    | 203.939   | 200.69473 | 199.57259 | 199.45045460000003 |
| 327 | 328 Syracuse | 0    | 464   | 464       | 479       | 491       | 503                |
| 328 | 329 Syracuse | 0    | 225   | 225       | 225       | 225       | 226                |
| 329 | 330 Syracuse | 123  | 0     | 298.9998  | 296.5689  | 296.5689  | 296.5689           |
| 330 | 331 Syracuse | 85   | 0     | 204.4048  | 204.4048  | 204.4048  | 204.4048           |
| 331 | 332 Dewitt   | 233  | 0     | 514.9998  | 514.9998  | 514.9998  | 517.2101           |
| 332 | 333 Dewitt   | 130  | 10    | 244.0001  | 244.0001  | 244.0001  | 244.0001           |
| 333 | 334 Camillus | 606  | 4     | 1223.934  | 1219.908  | 1217.8950 | 1217.8950247300004 |
| 334 | 335 Syracuse | 168  | 0     | 400.2352  | 397.8529  | 397.8529  | 397.8529           |
| 335 | 336 Syracuse | 217  | 0     | 538.96750 | 524.0652  | 514.13028 | 504.1954           |
| 336 | 337 Syracuse | 0    | 0     | 0         | 1         | 3         | 5                  |
| 337 | 338 Syracuse | 0    | 0     | 0         | 1         | 2         | 3                  |
| 338 | 339 Syracuse | 67   | 0     | 67.999968 | 107.58203 | 138.0298  | 168.47753339999997 |
| 339 | 340 Syracuse | 0    | 0     | 0         | 0         | 0         | 0                  |
| 340 | 341 Syracuse | 0    | 0     | 0         | 0         | 0         | 0                  |
| 341 | 342 Syracuse | 0    | 0     | 0         | 0         | 0         | 0                  |
| 342 | 343 Syracuse | 196  | 0     | 219.11797 | 306.318   | 373.39491 | 440.47184689999983 |
| 343 | 344 Syracuse | 0    | 4     | 4         | 4         | 4         | 5                  |



| TAZ | Town_City    | HH17 | HH_GQ | pop17     | pop30     | pop40     | pop50              |
|-----|--------------|------|-------|-----------|-----------|-----------|--------------------|
| 344 | 345 Syracuse | 136  | 0     | 273.98552 | 271.9709  | 271.9709  | 271.9709           |
| 345 | 346 Syracuse | 0    | 62    | 62        | 64        | 66        | 69                 |
| 346 | 347 Syracuse | 208  | 0     | 453.99981 | 451.8171  | 452.8171  | 453.8171           |
| 347 | 348 Syracuse | 223  | 0     | 368.2095  | 366.5584  | 366.5584  | 366.5584           |
| 348 | 349 Geddes   | 211  | 0     | 504.6079  | 504.6079  | 504.6079  | 506.9994           |
| 349 | 350 Camillus | 501  | 0     | 1197.9102 | 1200.301  | 1202.6923 | 1207.474           |
| 350 | 351 Manlius  | 380  | 0     | 941.4764  | 991.0278  | 1030.669  | 1072.788           |
| 351 | 352 Manlius  | 52   | 5     | 126.0345  | 128.362   | 133.01720 | 137.6724           |
| 352 | 353 Syracuse | 321  | 49    | 657.16467 | 639.21873 | 626.95657 | 617.589            |
| 353 | 354 Syracuse | 77   | 0     | 194.4743  | 194.4743  | 194.4743  | 194.4743           |
| 354 | 355 Syracuse | 0    | 0     | 0         | 0         | 0         | 0                  |
| 355 | 356 Syracuse | 0    | 0     | 0         | 0         | 0         | 0                  |
| 356 | 357 Geddes   | 380  | 0     | 926.87869 | 929.3178  | 934.1962  | 939.0745           |
| 357 | 358 Syracuse | 145  | 9     | 363.4445  | 361.00007 | 358.55563 | 359.55563499999994 |
| 358 | 359 Syracuse | 142  | 0     | 286.0142  | 284.00000 | 284.00000 | 284.0000004000001  |
| 359 | 360 Syracuse | 60   | 0     | 106       | 106       | 106       | 106                |
| 360 | 361 Syracuse | 5    | 0     | 12        | 12        | 12        | 12                 |
| 361 | 362 Syracuse | 180  | 1     | 316.99981 | 315.2443  | 313.4887  | 314.4887           |
| 362 | 363 Syracuse | 260  | 1     | 539       | 526.5846  | 518.30767 | 512.0999829000001  |
| 363 | 364 Syracuse | 236  | 0     | 420.2195  | 418.43887 | 416.6583  | 417.6583           |
| 364 | 365 Syracuse | 136  | 19    | 311.05120 | 307.7563  | 307.60889 | 309.60889490000005 |
| 365 | 366 Geddes   | 225  | 0     | 465.0669  | 444.3973  | 429.92850 | 417.5267           |
| 366 | 367 Geddes   | 186  | 0     | 444.60941 | 444.60941 | 444.60941 | 446.99978839999994 |
| 367 | 368 Syracuse | 59   | 0     | 116.9828  | 116.9828  | 116.9828  | 116.9828           |
| 368 | 369 Syracuse | 485  | 0     | 998.0574  | 995.9996  | 993.9417  | 993.9417           |
| 369 | 370 Syracuse | 298  | 0     | 595.9997  | 593.99967 | 593.99967 | 593.9996732999998  |
| 370 | 371 Syracuse | 0    | 0     | 0         | 0         | 0         | 0                  |
| 371 | 372 Syracuse | 840  | 0     | 1183.5915 | 1355.9506 | 1489.5381 | 1625.5346046999994 |
| 372 | 373 Syracuse | 0    | 140   | 140       | 139       | 139       | 139                |
| 373 | 374 Syracuse | 0    | 282   | 282       | 286       | 290       | 294                |
| 374 | 375 Syracuse | 0    | 0     | 0         | 0         | 0         | 0                  |
| 375 | 376 Syracuse | 0    | 0     | 0         | 0         | 0         | 0                  |
| 376 | 377 Syracuse | 81   | 0     | 81        | 88        | 94        | 101                |
| 377 | 378 Syracuse | 0    | 188   | 188       | 188       | 189       | 190                |
| 378 | 379 Syracuse | 0    | 24    | 24        | 24        | 24        | 24                 |
| 379 | 380 Syracuse | 0    | 0     | 0         | 0         | 0         | 0                  |
| 380 | 381 Syracuse | 0    | 0     | 0         | 0         | 0         | 0                  |
| 381 | 382 Syracuse | 0    | 0     | 0         | 0         | 0         | 0                  |
| 382 | 383 Geddes   | 167  | 4     | 372.38246 | 374.5883  | 376.79422 | 379.00011000000006 |
| 383 | 384 Syracuse | 108  | 0     | 280       | 280       | 280       | 280                |
| 384 | 385 Syracuse | 195  | 0     | 475.00003 | 460.38464 | 450.64105 | 443.33336320000006 |
| 385 | 386 Dewitt   | 160  | 4     | 397.17071 | 397.17071 | 397.17071 | 397.17071360000006 |
| 386 | 387 Dewitt   | 112  | 0     | 243       | 243       | 243       | 245.16967595000008 |



| TAZ | Town_City    | HH17 | HH_GQ | pop17     | pop30     | pop40     | pop50              |
|-----|--------------|------|-------|-----------|-----------|-----------|--------------------|
| 387 | 388 Syracuse | 154  | 0     | 274.4     | 272.61823 | 272.61823 | 272.61823050000004 |
| 388 | 389 Syracuse | 190  | 0     | 466.455   | 463.99997 | 463.99997 | 463.99997069999995 |
| 389 | 390 Syracuse | 146  | 0     | 210.44140 | 209.00002 | 209.00002 | 209.00002750000004 |
| 390 | 391 Syracuse | 201  | 10    | 402.4739  | 390.7582  | 382.94780 | 377.08998440000005 |
| 391 | 392 Syracuse | 39   | 0     | 73.125000 | 73.125000 | 73.125000 | 73.12500000000001  |
| 392 | 393 Camillus | 28   | 0     | 50.814778 | 50.814778 | 50.814778 | 50.814778000000004 |
| 393 | 394 Camillus | 379  | 3     | 899.53745 | 901.90298 | 906.6341  | 911.3651212799997  |
| 394 | 395 Syracuse | 0    | 0     | 0         | 0         | 0         | 0                  |
| 395 | 396 Syracuse | 78   | 0     | 93.00004  | 124.0001  | 147.84621 | 172.88468899999998 |
| 396 | 397 Syracuse | 185  | 0     | 221.0069  | 219.8122  | 219.8122  | 219.8122           |
| 397 | 398 Camillus | 1318 | 4     | 2825.5771 | 2810.5914 | 2799.887  | 2791.324           |
| 398 | 399 Syracuse | 458  | 3     | 1171.7929 | 1169.241  | 1166.6890 | 1166.6890632000002 |
| 399 | 400 Syracuse | 124  | 0     | 225.8211  | 223.1789  | 220.5366  | 220.7155           |
| 400 | 401 Syracuse | 21   | 0     | 48.681851 | 48.681851 | 48.681851 | 48.681851400000006 |
| 401 | 402 Camillus | 642  | 4     | 1437.492  | 1428.56   | 1424.094  | 1419.629           |
| 402 | 403 Syracuse | 0    | 0     | 0         | 0         | 0         | 0                  |
| 403 | 404 Syracuse | 133  | 0     | 298.5113  | 296.2668  | 296.2668  | 296.2668           |
| 404 | 405 Syracuse | 230  | 0     | 345       | 343.50000 | 343.50000 | 343.50000000000006 |
| 405 | 406 Syracuse | 66   | 0     | 124.8924  | 124.8924  | 124.8924  | 124.8924           |
| 406 | 407 Syracuse | 214  | 2     | 436.93533 | 434.90292 | 434.90292 | 434.90292530000005 |
| 407 | 408 Syracuse | 0    | 0     | 0         | 1         | 2         | 3                  |
| 408 | 409 Syracuse | 0    | 0     | 0         | 1         | 2         | 3                  |
| 409 | 410 Syracuse | 137  | 0     | 182.33082 | 220.9264  | 251.5367  | 282.147            |
| 410 | 411 Syracuse | 0    | 0     | 0         | 0         | 0         | 0                  |
| 411 | 412 Syracuse | 128  | 94    | 229.4203  | 237.6522  | 244.884   | 253.1159           |
| 412 | 413 Syracuse | 0    | 0     | 0         | 0         | 0         | 0                  |
| 413 | 414 Syracuse | 31   | 0     | 31        | 64.000006 | 90.000008 | 116                |
| 414 | 415 Syracuse | 140  | 0     | 140.00005 | 139.00005 | 139.00005 | 139.00005560000002 |
| 415 | 416 Camillus | 335  | 0     | 753.99994 | 749.49845 | 747.24770 | 744.9969590999998  |
| 416 | 417 Syracuse | 27   | 0     | 38.999966 | 38.999966 | 38.999966 | 38.99996640000001  |
| 417 | 418 Syracuse | 0    | 0     | 0         | 0         | 0         | 0                  |
| 418 | 419 Syracuse | 0    | 0     | 0         | 0         | 0         | 0                  |
| 419 | 420 Syracuse | 0    | 0     | 0         | 0         | 0         | 0                  |
| 420 | 421 Syracuse | 389  | 0     | 901.6821  | 899.3641  | 897.04618 | 898.0461856000001  |
| 421 | 422 Syracuse | 0    | 0     | 0         | 0         | 0         | 1                  |
| 422 | 423 Syracuse | 0    | 0     | 0         | 0         | 0         | 0                  |
| 423 | 424 Syracuse | 0    | 0     | 0         | 0         | 0         | 0                  |
| 424 | 425 Syracuse | 34   | 0     | 42.00003  | 90.176527 | 127.23537 | 164.2942           |
| 425 | 426 Syracuse | 0    | 0     | 0         | 0         | 0         | 0                  |
| 426 | 427 Syracuse | 4    | 0     | 7         | 7         | 7         | 7                  |
| 427 | 428 Syracuse | 28   | 0     | 71.448266 | 71.448266 | 71.448266 | 71.44826640000002  |
| 428 | 429 Syracuse | 192  | 0     | 476.4811  | 473.9995  | 473.9995  | 473.9995           |
| 429 | 430 Syracuse | 137  | 0     | 279.82973 | 277.7872  | 277.7872  | 277.7872           |



| TAZ | Town_City    | HH17 | HH_GQ | pop17     | pop30     | pop40     | pop50              |
|-----|--------------|------|-------|-----------|-----------|-----------|--------------------|
| 430 | 431 Syracuse | 0    | 3     | 3         | 3         | 3         | 3                  |
| 431 | 432 Syracuse | 35   | 0     | 86.52779  | 86.52779  | 86.52779  | 86.52779           |
| 432 | 433 Syracuse | 15   | 0     | 38        | 38        | 38        | 38                 |
| 433 | 434 Syracuse | 196  | 0     | 378.00016 | 362.57158 | 351.0002  | 341.3572900200001  |
| 434 | 435 Syracuse | 5    | 0     | 8         | 8         | 8         | 8                  |
| 435 | 436 Syracuse | 0    | 0     | 0         | 0         | 0         | 0                  |
| 436 | 437 Syracuse | 0    | 0     | 0         | 0         | 0         | 0                  |
| 437 | 438 Syracuse | 0    | 0     | 0         | 0         | 1         | 2                  |
| 438 | 439 Syracuse | 82   | 0     | 152       | 152       | 152       | 152                |
| 439 | 440 Syracuse | 207  | 0     | 415.0001  | 412.9953  | 412.9953  | 412.9953           |
| 440 | 441 Geddes   | 110  | 0     | 159.5495  | 159.5495  | 159.5495  | 159.5495           |
| 441 | 442 Syracuse | 455  | 57    | 1053.201  | 1022.3596 | 998.0862  | 976.0022           |
| 442 | 443 Syracuse | 445  | 4     | 1042.6713 | 1025.333  | 1013.662  | 1001.992           |
| 443 | 444 Camillus | 238  | 0     | 523.9996  | 523.9996  | 523.9996  | 523.9996           |
| 444 | 445 Syracuse | 0    | 0     | 0         | 0         | 0         | 0                  |
| 445 | 446 Dewitt   | 22   | 0     | 56.571416 | 56.571416 | 59.14284  | 61.714271999999994 |
| 446 | 447 Geddes   | 200  | 0     | 483.417   | 483.417   | 483.417   | 483.417            |
| 447 | 448 Geddes   | 137  | 7     | 278.12571 | 278.12571 | 278.12571 | 278.12571670999995 |
| 448 | 449 Syracuse | 49   | 0     | 110.25    | 110.25    | 110.25    | 110.25             |
| 449 | 450 Manlius  | 577  | 0     | 1397.576  | 1412.109  | 1424.2199 | 1436.3306685400007 |
| 450 | 451 Geddes   | 834  | 5     | 1712.7612 | 1712.7612 | 1712.7612 | 1714.809           |
| 451 | 452 Manlius  | 673  | 0     | 1309.947  | 1304.1073 | 1300.215  | 1296.3216740399996 |
| 452 | 453 Syracuse | 2    | 0     | 2         | 2         | 2         | 2                  |
| 453 | 454 Syracuse | 104  | 0     | 140.00008 | 156.15394 | 168.26933 | 181.73088180000002 |
| 454 | 455 Syracuse | 6    | 0     | 11.14285  | 11.14285  | 11.14285  | 11.14285           |
| 455 | 456 Syracuse | 3    | 0     | 3         | 3         | 3         | 3                  |
| 456 | 457 Syracuse | 26   | 0     | 34.99998  | 36.346136 | 37.69229  | 39.03844           |
| 457 | 458 Syracuse | 95   | 0     | 151.59581 | 151.59581 | 151.59581 | 151.59581299999996 |
| 458 | 459 Syracuse | 277  | 0     | 506.17245 | 495.20843 | 486.0717  | 478.76239879999986 |
| 459 | 460 Syracuse | 176  | 0     | 218.40985 | 217.16889 | 217.16889 | 217.16889250000003 |
| 460 | 461 Syracuse | 0    | 0     | 0         | 0         | 0         | 0                  |
| 461 | 462 Syracuse | 0    | 0     | 0         | 0         | 0         | 0                  |
| 462 | 463 Syracuse | 0    | 0     | 0         | 0         | 0         | 0                  |
| 463 | 464 Syracuse | 34   | 0     | 41.771414 | 127.77138 | 194.1142  | 260.45705200000003 |
| 464 | 465 Syracuse | 8    | 0     | 17.14284  | 17.14284  | 17.14284  | 17.14284           |
| 465 | 466 Syracuse | 199  | 0     | 308.00004 | 306.45230 | 307.45230 | 308.45230220000013 |
| 466 | 467 Syracuse | 0    | 0     | 0         | 0         | 0         | 0                  |
| 467 | 468 Syracuse | 155  | 0     | 179.35714 | 178.20000 | 178.20000 | 178.20000044000003 |
| 468 | 469 Syracuse | 128  | 0     | 188.5272  | 187.0544  | 187.0544  | 187.0544           |
| 469 | 470 Syracuse | 185  | 8     | 259.4846  | 258.12520 | 258.12520 | 258.12520240000003 |
| 470 | 471 Syracuse | 189  | 0     | 375.9999  | 374.01049 | 374.01049 | 374.01049752000006 |
| 471 | 472 Syracuse | 306  | 0     | 794.00066 | 791.4059  | 791.4059  | 791.4059           |
| 472 | 473 Dewitt   | 313  | 152   | 771.2542  | 769.2758  | 767.2973  | 767.2973           |



| TAZ | Town_City    | HH17 | HH_GQ | pop17     | pop30     | pop40     | pop50     |
|-----|--------------|------|-------|-----------|-----------|-----------|-----------|
| 473 | 474 Dewitt   | 364  |       | 0         | 712.04328 | 710.0871  | 710.0871  |
| 474 | 475 Syracuse | 432  |       | 1         | 967.0002  | 964.764   | 962.5279  |
| 475 | 476 Syracuse | 41   |       | 0         | 79.999950 | 79.999950 | 79.999950 |
| 476 | 477 Syracuse | 37   |       | 0         | 75.027734 | 75.027734 | 75.027734 |
| 477 | 478 Syracuse | 15   |       | 0         | 33.000021 | 33.000021 | 33.000021 |
| 478 | 479 Syracuse | 33   |       | 0         | 67.03125  | 67.03125  | 67.03125  |
| 479 | 480 Syracuse | 190  | 12    | 424.7583  | 409.5514  | 398.6894  | 387.8273  |
| 480 | 481 Syracuse | 108  |       | 0         | 195       | 185.9722  | 178.75    |
| 481 | 482 Syracuse | 315  |       | 0         | 699.77823 | 686.44912 | 677.56305 |
| 482 | 483 Syracuse | 294  |       | 0         | 652.7798  | 639.4578  | 630.57642 |
| 483 | 484 Dewitt   | 0    |       | 0         | 0         | 0         | 0         |
| 484 | 485 Dewitt   | 0    |       | 0         | 0         | 0         | 0         |
| 485 | 486 Syracuse | 170  |       | 0         | 392.68983 | 390.37989 | 390.37989 |
| 486 | 487 Elbridge | 460  |       | 0         | 1046.374  | 1073.6702 | 1094.1427 |
| 487 | 488 Elbridge | 320  |       | 4         | 781.70880 | 796.29084 | 808.4425  |
| 488 | 489 Syracuse | 113  |       | 0         | 158.40166 | 158.40166 | 158.40166 |
| 489 | 490 Syracuse | 329  |       | 0         | 693.99997 | 691.8906  | 691.8906  |
| 490 | 491 Syracuse | 400  | 25    | 589.31944 | 588.90864 | 588.49785 | 590.49785 |
| 491 | 492 Syracuse | 331  |       | 9         | 412.80033 | 411.5804  | 411.5804  |
| 492 | 493 Syracuse | 0    |       | 0         | 0         | 0         | 0         |
| 493 | 494 Syracuse | 150  |       | 0         | 224.50333 | 293.351   | 347.23182 |
| 494 | 495 Syracuse | 29   |       | 0         | 58.90625  | 87.34375  | 109.6875  |
| 495 | 496 Syracuse | 287  |       | 0         | 652.72542 | 650.45111 | 650.45111 |
| 496 | 497 Syracuse | 144  |       | 1         | 311.8416  | 309.683   | 309.683   |
| 497 | 498 Syracuse | 223  |       | 0         | 252.9999  | 251.8654  | 251.8654  |
| 498 | 499 Syracuse | 176  |       | 0         | 284.38393 | 283.76811 | 285.76811 |
| 499 | 500 Syracuse | 582  |       | 4         | 1144.164  | 1140.2454 | 1138.286  |
| 500 | 501 Syracuse | 0    |       | 0         | 0         | 0         | 0         |
| 501 | 502 Geddes   | 634  |       | 0         | 1423.0007 | 1416.267  | 1411.7783 |
| 502 | 503 Syracuse | 45   |       | 0         | 63.409067 | 63.409067 | 63.409067 |
| 503 | 504 Syracuse | 290  | 49    | 769.32109 | 730.57924 | 701.77285 | 672.96646 |
| 504 | 505 Geddes   | 743  |       | 1         | 1605.6809 | 1590.5628 | 1579.7642 |
| 505 | 506 Camillus | 183  |       | 0         | 366.00016 | 374.00017 | 382.0002  |
| 506 | 507 Syracuse | 0    |       | 0         | 0         | 0         | 0         |
| 507 | 508 Syracuse | 228  |       | 0         | 263.49697 | 290.0778  | 310.8802  |
| 508 | 509 Syracuse | 40   |       | 0         | 84.102539 | 124.05124 | 155.58969 |
| 509 | 510 Syracuse | 339  | 97    | 524.63772 | 526.3763  | 528.3763  | 531.3763  |
| 510 | 511 Syracuse | 111  |       | 0         | 170.99985 | 170.99985 | 170.99985 |
| 511 | 512 Syracuse | 365  |       | 0         | 752.00038 | 749.94011 | 747.8798  |
| 512 | 513 Dewitt   | 14   |       | 0         | 28.000011 | 28.000011 | 28.000011 |
| 513 | 514 Syracuse | 568  |       | 0         | 1242.812  | 1240.6243 | 1238.4362 |
| 514 | 515 Syracuse | 103  |       | 0         | 178.99996 | 178.99996 | 178.99996 |
| 515 | 516 Geddes   | 0    |       | 0         | 0         | 0         | 0         |



| TAZ | Town_City     | HH17 | HH_GQ | pop17     | pop30     | pop40     | pop50              |
|-----|---------------|------|-------|-----------|-----------|-----------|--------------------|
| 516 | 517 Geddes    | 481  | 0     | 1061.029  | 1052.206  | 1045.588  | 1038.971           |
| 517 | 518 Syracuse  | 0    | 0     | 0         | 0         | 0         | 0                  |
| 518 | 519 Dewitt    | 85   | 0     | 179.1074  | 179.1074  | 179.1074  | 179.1074           |
| 519 | 520 Syracuse  | 398  | 0     | 682.2854  | 680.57111 | 678.8568  | 678.8568           |
| 520 | 521 Dewitt    | 0    | 0     | 0         | 0         | 0         | 0                  |
| 521 | 522 Syracuse  | 307  | 103   | 799.56632 | 770.07003 | 749.6495  | 730.2290131999997  |
| 522 | 523 Syracuse  | 334  | 0     | 920.488   | 917.7321  | 917.7321  | 917.7321           |
| 523 | 524 Syracuse  | 608  | 9     | 1455.213  | 1433.805  | 1419.534  | 1405.262           |
| 524 | 525 Syracuse  | 485  | 0     | 1058.816  | 1056.633  | 1054.45   | 1054.45            |
| 525 | 1114 Camillus | 223  | 0     | 584.5302  | 642.19688 | 686.75748 | 733.9393           |
| 526 | 1113 Camillus | 160  | 0     | 414.4101  | 414.4101  | 414.4101  | 414.4101           |
| 527 | 527 Syracuse  | 395  | 0     | 1002      | 969.0223  | 943.6552  | 920.8248733199997  |
| 528 | 528 Syracuse  | 481  | 0     | 971.0189  | 969.0001  | 966.9814  | 966.9814           |
| 529 | 529 Syracuse  | 261  | 0     | 570.00008 | 567.81617 | 567.81617 | 567.8161736000001  |
| 530 | 530 Syracuse  | 0    | 0     | 0         | 0         | 0         | 0                  |
| 531 | 531 Syracuse  | 0    | 1     | 1         | 1         | 1         | 1                  |
| 532 | 532 Syracuse  | 438  | 0     | 1003.291  | 968.9318  | 943.735   | 920.8288           |
| 533 | 533 Manlius   | 736  | 5     | 1784.9097 | 1775.236  | 1770.4    | 1765.563           |
| 534 | 534 Syracuse  | 0    | 0     | 0         | 0         | 0         | 0                  |
| 535 | 535 Syracuse  | 277  | 0     | 578.9099  | 576.81992 | 576.81992 | 576.8199292800001  |
| 536 | 536 Dewitt    | 0    | 6     | 6         | 6         | 6         | 6                  |
| 537 | 537 Syracuse  | 346  | 2     | 764.7952  | 762.59055 | 762.59055 | 762.5905534999997  |
| 538 | 538 Syracuse  | 302  | 0     | 715.26332 | 686.8423  | 667.89489 | 648.9475183999999  |
| 539 | 539 Syracuse  | 223  | 0     | 606.56024 | 587.52023 | 573.92022 | 560.3202           |
| 540 | 540 Syracuse  | 301  | 0     | 691.7023  | 689.4043  | 689.4043  | 689.4043           |
| 541 | 541 Syracuse  | 104  | 0     | 243.3208  | 243.3208  | 243.3208  | 243.3208           |
| 542 | 542 Syracuse  | 446  | 0     | 938.79100 | 936.6861  | 934.5812  | 934.5812           |
| 543 | 543 Dewitt    | 501  | 0     | 1067.869  | 1065.7374 | 1063.606  | 1063.606           |
| 544 | 544 Syracuse  | 359  | 4     | 713.07474 | 711.09960 | 709.1245  | 709.1245           |
| 545 | 545 Syracuse  | 370  | 0     | 869.3005  | 848.15534 | 831.7091  | 817.6123514400001  |
| 546 | 546 Syracuse  | 0    | 0     | 0         | 0         | 0         | 0                  |
| 547 | 547 Syracuse  | 373  | 0     | 705.0008  | 703.11067 | 701.22059 | 701.2205926599999  |
| 548 | 548 Dewitt    | 318  | 0     | 686.99966 | 686.99966 | 686.99966 | 686.9996633999999  |
| 549 | 549 Dewitt    | 440  | 2     | 931.6616  | 929.5487  | 929.5487  | 929.5487           |
| 550 | 550 Geddes    | 110  | 0     | 222.9729  | 220.9458  | 218.91880 | 218.91880260000002 |
| 551 | 551 Syracuse  | 201  | 0     | 421.9007  | 409.3067  | 398.8117  | 390.41561820000015 |
| 552 | 552 Syracuse  | 309  | 0     | 768.99986 | 749.09048 | 734.1584  | 721.7151           |
| 553 | 553 Syracuse  | 330  | 34    | 737.51657 | 735.38470 | 733.25283 | 734.2528351999998  |
| 554 | 554 Syracuse  | 440  | 4     | 1021.747  | 988.364   | 965.2334  | 942.1028           |
| 555 | 555 Camillus  | 350  | 8     | 764.5867  | 879.15558 | 967.7843  | 1056.413           |
| 556 | 556 Camillus  | 312  | 0     | 801.6515  | 865.8864  | 917.2743  | 968.6622           |
| 557 | 557 Camillus  | 146  | 0     | 313.0003  | 351.58933 | 383.7469  | 415.9045           |
| 558 | 558 Syracuse  | 414  | 0     | 932.9999  | 928.4927  | 926.2391  | 927.2391           |



| TAZ | Town_City    | HH17 | HH_GQ | pop17     | pop30     | pop40     | pop50              |
|-----|--------------|------|-------|-----------|-----------|-----------|--------------------|
| 559 | 559 Geddes   | 0    | 0     | 0         | 0         | 0         | 0                  |
| 560 | 560 Manlius  | 148  | 0     | 341.9997  | 362.797   | 378.97269 | 397.4592           |
| 561 | 561 Syracuse | 385  | 0     | 937.4347  | 913.0857  | 896.0415  | 881.4321           |
| 562 | 562 Manlius  | 335  | 0     | 828.5269  | 1065.956  | 1248.9734 | 1431.9913344599993 |
| 563 | 563 Syracuse | 656  | 0     | 1481.519  | 1452.159  | 1429.575  | 1406.9909438900004 |
| 564 | 564 Syracuse | 253  | 0     | 539.9998  | 520.79029 | 507.98397 | 495.1776564000001  |
| 565 | 565 Syracuse | 311  | 0     | 541.7422  | 540.00029 | 540.00029 | 540.0002902000001  |
| 566 | 566 Syracuse | 270  | 0     | 573.87377 | 571.7483  | 571.7483  | 571.7483           |
| 567 | 567 Syracuse | 334  | 0     | 830.51374 | 815.59433 | 803.1615  | 793.2152239000002  |
| 568 | 568 Elbridge | 77   | 0     | 191.4869  | 193.9737  | 196.4606  | 201.43427490000002 |
| 569 | 569 Elbridge | 205  | 0     | 407.0146  | 414.9563  | 420.9126  | 428.8544           |
| 570 | 570 Syracuse | 610  | 0     | 925.0001  | 902.2542  | 885.57382 | 870.4099           |
| 571 | 571 Syracuse | 543  | 0     | 1117.057  | 1114.9998 | 1112.943  | 1112.943           |
| 572 | 572 Syracuse | 610  | 9     | 1201.3177 | 1173.953  | 1155.407  | 1136.861           |
| 573 | 573 Dewitt   | 307  | 9     | 720.15131 | 715.5184  | 710.8855  | 708.5690506200001  |
| 574 | 574 Syracuse | 412  | 14    | 741.28599 | 737.7555  | 735.99022 | 736.9902275200003  |
| 575 | 575 Syracuse | 397  | 7     | 909.3615  | 886.632   | 870.72132 | 854.8106707800001  |
| 576 | 576 Dewitt   | 333  | 0     | 741.9996  | 737.54317 | 735.3149  | 733.0867           |
| 577 | 577 Syracuse | 126  | 0     | 303.1878  | 300.7815  | 300.7815  | 300.7815           |
| 578 | 578 Syracuse | 107  | 0     | 255       | 255       | 255       | 255                |
| 579 | 579 Syracuse | 511  | 0     | 1086.1257 | 1060.62   | 1043.616  | 1026.612           |
| 580 | 580 Syracuse | 0    | 0     | 0         | 0         | 0         | 0                  |
| 581 | 581 Syracuse | 0    | 2     | 2         | 2         | 2         | 2                  |
| 582 | 582 Syracuse | 120  | 0     | 278.31906 | 275.99973 | 275.99973 | 275.99973450000005 |
| 583 | 583 Syracuse | 162  | 0     | 345.7317  | 343.5976  | 343.5976  | 343.5976           |
| 584 | 584 Syracuse | 368  | 78    | 872.7452  | 856.4681  | 844.5103  | 832.5524893199997  |
| 585 | 585 Dewitt   | 1    | 0     | 1         | 1         | 1         | 1                  |
| 586 | 586 Dewitt   | 2    | 0     | 4         | 4         | 4         | 4                  |
| 587 | 587 Syracuse | 42   | 4     | 90.7392   | 90.7392   | 90.7392   | 90.7392            |
| 588 | 588 Syracuse | 81   | 0     | 201.51210 | 201.51210 | 201.51210 | 201.51210780000002 |
| 589 | 589 Syracuse | 53   | 0     | 128.4231  | 128.4231  | 128.4231  | 128.4231           |
| 590 | 590 Syracuse | 256  | 3     | 581.4805  | 567.9223  | 558.88356 | 549.8448081800002  |
| 591 | 591 Syracuse | 271  | 0     | 541.9996  | 523.99957 | 511.9996  | 499.9996           |
| 592 | 592 Salina   | 690  | 3     | 1402.913  | 1402.913  | 1404.9415 | 1406.97            |
| 593 | 593 Dewitt   | 476  | 0     | 771.62057 | 771.62057 | 771.62057 | 773.2416227400001  |
| 594 | 594 Dewitt   | 373  | 7     | 857.04715 | 857.04715 | 857.04715 | 859.3261031999999  |
| 595 | 595 Manlius  | 660  | 0     | 1380.1821 | 1380.1821 | 1380.1821 | 1380.1821725999996 |
| 596 | 596 Dewitt   | 197  | 0     | 395.9996  | 395.9996  | 398.0097  | 400.0199           |
| 597 | 597 Syracuse | 94   | 0     | 207.78945 | 207.78945 | 207.78945 | 207.78945340000004 |
| 598 | 598 Syracuse | 101  | 0     | 224.22    | 224.22    | 224.22    | 224.22             |
| 599 | 599 Dewitt   | 74   | 0     | 126.7123  | 126.7123  | 126.7123  | 126.7123           |
| 600 | 600 Syracuse | 328  | 0     | 674.00008 | 663.7257  | 655.5062  | 649.3415           |
| 601 | 601 Syracuse | 232  | 6     | 532.6497  | 530.3797  | 530.3797  | 530.3797           |



| TAZ | Town_City     | HH17 | HH_GQ | pop17     | pop30     | pop40     | pop50              |
|-----|---------------|------|-------|-----------|-----------|-----------|--------------------|
| 602 | 602 Syracuse  | 88   | 0     | 177.0002  | 177.0002  | 177.0002  | 177.0002           |
| 603 | 603 Syracuse  | 245  | 8     | 552.0153  | 549.79481 | 547.57434 | 548.5743460799998  |
| 604 | 604 Syracuse  | 299  | 10    | 666.8349  | 653.6543  | 644.86718 | 637.0800940999999  |
| 605 | 605 Salina    | 93   | 0     | 192.00007 | 187.871   | 183.74200 | 181.67748720000003 |
| 606 | 606 Salina    | 572  | 0     | 1265.2114 | 1265.2114 | 1265.2114 | 1267.423           |
| 607 | 607 Dewitt    | 52   | 0     | 100.07540 | 100.07540 | 100.07540 | 100.07540920000001 |
| 608 | 608 Salina    | 0    | 0     | 0         | 0         | 0         | 0                  |
| 609 | 609 Salina    | 3    | 0     | 3         | 3         | 4         | 5                  |
| 610 | 610 Dewitt    | 3    | 0     | 3         | 4         | 5         | 6                  |
| 611 | 611 Dewitt    | 43   | 0     | 107.5001  | 140.00008 | 167.5001  | 195.0001           |
| 612 | 612 Camillus  | 95   | 6     | 241.49309 | 239.01422 | 239.01422 | 239.01422180000003 |
| 613 | 613 Camillus  | 55   | 0     | 153.5848  | 170.33955 | 184.30181 | 198.2641           |
| 614 | 614 Camillus  | 172  | 0     | 404.2555  | 488.8671  | 554.6762  | 620.4852           |
| 615 | 615 Camillus  | 351  | 0     | 973.2281  | 1020.365  | 1059.1827 | 1098.0009730800002 |
| 616 | 616 Dewitt    | 653  | 0     | 1516.001  | 1516.001  | 1516.001  | 1516.001           |
| 617 | 617 Van Buren | 19   | 0     | 48.555586 | 48.555586 | 48.555586 | 51.11114           |
| 618 | 618 Van Buren | 67   | 0     | 170.0001  | 170.0001  | 172.53739 | 175.0747           |
| 619 | 619 Salina    | 59   | 0     | 115.96552 | 115.96552 | 115.96552 | 115.96552659999999 |
| 620 | 620 Salina    | 0    | 0     | 0         | 0         | 0         | 0                  |
| 621 | 621 Dewitt    | 1    | 0     | 4         | 4         | 4         | 4                  |
| 622 | 622 Dewitt    | 0    | 0     | 0         | 0         | 0         | 0                  |
| 623 | 623 Manlius   | 494  | 0     | 1235.5020 | 1230.5    | 1225.498  | 1222.997           |
| 624 | 624 Manlius   | 61   | 0     | 142.3332  | 146.99990 | 151.6666  | 156.33323730000004 |
| 625 | 625 Manlius   | 69   | 0     | 159.6856  | 161.9999  | 164.31421 | 166.62849839999999 |
| 626 | 626 Manlius   | 290  | 0     | 713.53978 | 708.61881 | 706.1583  | 706.1583           |
| 627 | 627 Salina    | 796  | 0     | 1459.8331 | 1456.165  | 1454.331  | 1454.331           |
| 628 | 628 Salina    | 394  | 0     | 876.22395 | 876.22395 | 878.44787 | 880.6717893600003  |
| 629 | 1103 Salina   | 0    | 0     | 0         | 0         | 0         | 0                  |
| 630 | 1102 Salina   | 0    | 0     | 0         | 0         | 0         | 0                  |
| 631 | 1104 Salina   | 290  | 0     | 661.9997  | 661.9997  | 661.9997  | 661.9997           |
| 632 | 630 Salina    | 0    | 0     | 0         | 0         | 0         | 0                  |
| 633 | 631 Dewitt    | 13   | 0     | 22.99999  | 22.99999  | 22.99999  | 22.99999           |
| 634 | 632 Dewitt    | 40   | 0     | 91.282    | 91.282    | 91.282    | 91.282             |
| 635 | 633 Salina    | 17   | 0     | 38.25     | 38.25     | 38.25     | 38.25              |
| 636 | 634 Salina    | 0    | 0     | 0         | 0         | 0         | 0                  |
| 637 | 635 Salina    | 71   | 0     | 169.3858  | 169.3858  | 169.3858  | 171.77151600000005 |
| 638 | 636 Van Buren | 61   | 0     | 165.7168  | 165.7168  | 168.4335  | 171.1502           |
| 639 | 637 Salina    | 474  | 0     | 1053.554  | 1051.332  | 1051.332  | 1051.332           |
| 640 | 638 Dewitt    | 10   | 0     | 27.77775  | 24.99998  | 24.99998  | 24.99998           |
| 641 | 639 Geddes    | 396  | 0     | 949.6026  | 954.3985  | 959.1945  | 966.3885           |
| 642 | 640 Salina    | 251  | 0     | 506.01600 | 504       | 501.984   | 501.984            |
| 643 | 641 Sullivan  | 145  | 0     | 306.9999  | 328.17226 | 345.11018 | 364.16534880000006 |
| 644 | 642 Geddes    | 440  | 1     | 1008.29   | 1010.579  | 1012.869  | 1015.158           |



| TAZ | Town_City     | HH17 | HH_GQ | pop17     | pop30     | pop40     | pop50              |
|-----|---------------|------|-------|-----------|-----------|-----------|--------------------|
| 645 | 643 Sullivan  | 86   | 0     | 214.9999  | 232.49986 | 247.4999  | 262.4999           |
| 646 | 644 Dewitt    | 0    | 15    | 15        | 15        | 15        | 15                 |
| 647 | 645 Salina    | 78   | 0     | 188.0002  | 188.0002  | 188.0002  | 188.0002           |
| 648 | 646 Salina    | 534  | 0     | 1194.761  | 1190.2865 | 1188.049  | 1188.049           |
| 649 | 647 Salina    | 19   | 0     | 48.99999  | 46.42104  | 46.42104  | 46.42104           |
| 650 | 648 Salina    | 236  | 0     | 505.00008 | 505.00008 | 505.00008 | 505.00008768000015 |
| 651 | 649 Salina    | 4    | 0     | 10        | 10        | 10        | 10                 |
| 652 | 650 Dewitt    | 188  | 0     | 499.3121  | 557.7423  | 605.5487  | 653.3552228399999  |
| 653 | 651 Dewitt    | 29   | 0     | 54.00003  | 54.00003  | 54.00003  | 54.00003           |
| 654 | 652 Salina    | 36   | 0     | 84.34297  | 84.34297  | 84.34297  | 84.34297           |
| 655 | 653 Van Buren | 22   | 0     | 55.00005  | 55.00005  | 55.00005  | 57.50005060000001  |
| 656 | 654 Salina    | 490  | 0     | 985.99930 | 988.0115  | 990.0238  | 992.036            |
| 657 | 655 Salina    | 603  | 0     | 1394.686  | 1390.06   | 1387.748  | 1387.748           |
| 658 | 656 Elbridge  | 244  | 0     | 605.99990 | 633.31957 | 653.1884  | 675.5408755199999  |
| 659 | 657 Salina    | 308  | 2     | 528.5811  | 526.87146 | 525.1618  | 525.1618           |
| 660 | 658 Salina    | 419  | 0     | 903.1555  | 898.84454 | 896.68904 | 896.6890400000001  |
| 661 | 659 Sullivan  | 70   | 0     | 142.99999 | 147.0857  | 151.1714  | 157.3              |
| 662 | 660 Sullivan  | 168  | 0     | 326       | 357.0477  | 382.2738  | 407.5              |
| 663 | 661 Salina    | 3    | 0     | 4.5       | 1.5       | 1         | 2                  |
| 664 | 662 Salina    | 54   | 0     | 131.0001  | 131.0001  | 131.0001  | 133.426            |
| 665 | 663 Salina    | 68   | 0     | 99.00008  | 97.5442   | 97.5442   | 97.5442            |
| 666 | 664 Salina    | 116  | 0     | 236.03479 | 234.00001 | 234.00001 | 234.00001625000004 |
| 667 | 665 Salina    | 154  | 0     | 288.0001  | 286.12993 | 286.12993 | 286.12993589999996 |
| 668 | 666 Geddes    | 247  | 0     | 598.00004 | 598.00004 | 598.00004 | 600.4211           |
| 669 | 667 Salina    | 518  | 3     | 1198.767  | 1201.0758 | 1203.3843 | 1205.693           |
| 670 | 668 Dewitt    | 17   | 0     | 37.1875   | 37.1875   | 37.1875   | 37.1875            |
| 671 | 669 Van Buren | 145  | 0     | 369.5483  | 377.1942  | 382.2914  | 389.9372           |
| 672 | 670 Van Buren | 61   | 0     | 159.3869  | 159.3869  | 159.3869  | 159.3869           |
| 673 | 671 Sullivan  | 175  | 0     | 453.5917  | 482.1032  | 505.4307  | 528.7583059200001  |
| 674 | 672 Dewitt    | 0    | 0     | 0         | 0         | 0         | 0                  |
| 675 | 673 Dewitt    | 13   | 23    | 46.47221  | 46.47221  | 46.47221  | 48.27777           |
| 676 | 674 Manlius   | 168  | 0     | 425.4675  | 438.1302  | 448.26037 | 458.3906           |
| 677 | 675 Manlius   | 225  | 7     | 521.00874 | 539.2846  | 555.276   | 571.2673750999999  |
| 678 | 676 Salina    | 330  | 6     | 767.1616  | 762.54845 | 760.24190 | 760.2419088600002  |
| 679 | 677 Salina    | 417  | 0     | 855.0003  | 859.10104 | 863.20176 | 867.3025           |
| 680 | 678 Van Buren | 84   | 0     | 203       | 207.83336 | 212.66669 | 217.50002999999998 |
| 681 | 679 Salina    | 1000 | 0     | 2291.2893 | 2364.611  | 2421.893  | 2481.4663335600007 |
| 682 | 680 Salina    | 180  | 0     | 414.99991 | 412.69436 | 412.69436 | 412.69436289999993 |
| 683 | 681 Salina    | 485  | 0     | 1155.382  | 1152.9999 | 1150.618  | 1150.618           |
| 684 | 682 Van Buren | 28   | 0     | 68.551728 | 90.586212 | 110.1724  | 129.75862800000002 |
| 685 | 683 Salina    | 271  | 7     | 634.78426 | 634.78426 | 634.78426 | 637.1008112000002  |
| 686 | 684 Salina    | 103  | 0     | 226       | 226       | 226       | 226                |
| 687 | 685 Salina    | 312  | 7     | 670.975   | 670.975   | 673.10312 | 675.2313           |



| TAZ | Town_City     | HH17 | HH_GQ | pop17     | pop30     | pop40     | pop50              |
|-----|---------------|------|-------|-----------|-----------|-----------|--------------------|
| 688 | 686 Dewitt    | 67   | 0     | 135.9999  | 135.9999  | 138.0297  | 140.0596           |
| 689 | 687 Salina    | 285  | 0     | 525       | 525       | 525       | 525                |
| 690 | 688 Van Buren | 181  | 0     | 485.3189  | 488.00025 | 490.68157 | 493.3629           |
| 691 | 689 Van Buren | 0    | 0     | 0         | 1         | 2         | 4                  |
| 692 | 690 Dewitt    | 13   | 0     | 24.999991 | 24.999991 | 24.999991 | 24.999991899999998 |
| 693 | 691 Dewitt    | 2    | 0     | 5         | 5         | 5         | 5                  |
| 694 | 692 Salina    | 273  | 19    | 571.5447  | 571.5447  | 571.5447  | 573.5686622799999  |
| 695 | 693 Salina    | 470  | 0     | 773.35442 | 773.35442 | 774.99986 | 776.6453           |
| 696 | 694 Geddes    | 11   | 0     | 26.4      | 26.4      | 26.4      | 28.800000000000004 |
| 697 | 695 Salina    | 4    | 0     | 9         | 9         | 9         | 11.25              |
| 698 | 696 Van Buren | 2    | 0     | 4         | 4         | 4         | 4                  |
| 699 | 697 Salina    | 200  | 0     | 453       | 453       | 455.265   | 457.53             |
| 700 | 698 Salina    | 286  | 0     | 700.99995 | 703.451   | 705.9021  | 708.3531060900001  |
| 701 | 699 Sullivan  | 70   | 0     | 151.9999  | 162.85708 | 173.7142  | 184.5714           |
| 702 | 700 Van Buren | 183  | 0     | 398.8203  | 398.8203  | 398.8203  | 400.9996           |
| 703 | 701 Salina    | 552  | 0     | 1178      | 1210.0103 | 1235.619  | 1261.228           |
| 704 | 1107 Clay     | 10   | 0     | 22        | 22        | 22        | 22                 |
| 705 | 1108 Clay     | 50   | 0     | 104.08157 | 104.08157 | 104.08157 | 104.08157999999996 |
| 706 | 703 Van Buren | 103  | 0     | 275.00005 | 280.3399  | 285.6797  | 293.68937400000004 |
| 707 | 704 Geddes    | 104  | 6     | 258.9728  | 258.9728  | 261.4052  | 263.8376           |
| 708 | 705 Salina    | 546  | 5     | 1104.928  | 1106.9422 | 1108.9567 | 1110.9713152999998 |
| 709 | 706 Salina    | 4    | 0     | 6         | 6         | 6         | 6                  |
| 710 | 707 Geddes    | 0    | 0     | 0         | 0         | 1         | 2                  |
| 711 | 708 Van Buren | 471  | 0     | 1064.739  | 1105.43   | 1137.0782 | 1168.7265551500002 |
| 712 | 709 Clay      | 42   | 0     | 92.000029 | 113.90479 | 131.42861 | 148.95242919999998 |
| 713 | 710 Clay      | 47   | 0     | 67.142855 | 67.142855 | 67.142855 | 67.14285579999999  |
| 714 | 711 Salina    | 30   | 0     | 70.34482  | 70.34482  | 70.34482  | 72.68964940000002  |
| 715 | 1105 Salina   | 0    | 0     | 0         | 0         | 0         | 0                  |
| 716 | 1106 Salina   | 4    | 0     | 12        | 12        | 12        | 12                 |
| 717 | 713 Clay      | 154  | 0     | 379.0767  | 386.4613  | 393.8459  | 401.2305           |
| 718 | 714 Clay      | 1    | 0     | 4         | 4         | 4         | 4                  |
| 719 | 715 Clay      | 224  | 0     | 446.0001  | 447.9911  | 449.9822  | 453.9643           |
| 720 | 716 Cicero    | 9    | 0     | 14.99999  | 16.66665  | 18.333314 | 21.666645000000003 |
| 721 | 717 Van Buren | 197  | 0     | 467.0003  | 630.56891 | 758.57914 | 886.5894           |
| 722 | 718 Van Buren | 14   | 0     | 37.33336  | 40.00003  | 45.33336  | 50.6667            |
| 723 | 719 Cicero    | 16   | 0     | 36.266647 | 36.266647 | 38.533313 | 40.79997899999999  |
| 724 | 720 Cicero    | 29   | 0     | 68.000003 | 68.000003 | 70.344830 | 72.68965870000001  |
| 725 | 721 Cicero    | 16   | 0     | 46        | 46        | 46        | 48.875             |
| 726 | 722 Van Buren | 160  | 0     | 355       | 355       | 357.21875 | 359.43749999999994 |
| 727 | 723 Salina    | 652  | 0     | 1581.5755 | 1586.427  | 1591.278  | 1596.13            |
| 728 | 724 Salina    | 38   | 0     | 106.8107  | 106.8107  | 106.8107  | 106.8107           |
| 729 | 725 Clay      | 368  | 0     | 623.30600 | 623.30600 | 623.30600 | 624.9998           |
| 730 | 726 Clay      | 376  | 0     | 813.9996  | 813.9996  | 813.9996  | 813.9996           |



| TAZ | Town_City     | HH17 | HH_GQ | pop17     | pop30     | pop40     | pop50              |
|-----|---------------|------|-------|-----------|-----------|-----------|--------------------|
| 731 | 727 Clay      | 223  | 0     | 513.30200 | 513.30200 | 513.30200 | 513.3020021000002  |
| 732 | 728 Cicero    | 0    | 0     | 0         | 0         | 0         | 0                  |
| 733 | 729 Salina    | 446  | 6     | 853.49889 | 855.3991  | 857.29933 | 859.1995612600001  |
| 734 | 730 Salina    | 72   | 0     | 154.8493  | 154.8493  | 154.8493  | 157.00001959999997 |
| 735 | 731 Clay      | 273  | 0     | 680.49295 | 690.46355 | 700.43414 | 710.4047           |
| 736 | 732 Clay      | 8    | 0     | 18        | 18        | 18        | 20.25              |
| 737 | 733 Clay      | 0    | 0     | 0         | 0         | 0         | 0                  |
| 738 | 734 Cicero    | 1    | 0     | 1         | 1         | 1         | 1                  |
| 739 | 735 Cicero    | 170  | 0     | 354.91245 | 359.08789 | 363.2633  | 367.4388           |
| 740 | 736 Clay      | 550  | 7     | 1200.807  | 1205.1480 | 1209.4891 | 1216.001           |
| 741 | 737 Cicero    | 10   | 0     | 15.45453  | 18.54544  | 21.636343 | 26.2727            |
| 742 | 738 Lysander  | 195  | 0     | 475.2458  | 475.2458  | 475.2458  | 475.2458           |
| 743 | 739 Lysander  | 99   | 0     | 236.38780 | 238.7756  | 241.16331 | 245.93882680000002 |
| 744 | 740 Clay      | 510  | 0     | 816       | 816       | 817.59999 | 819.2              |
| 745 | 741 Van Buren | 200  | 0     | 367       | 367       | 367       | 368.835            |
| 746 | 742 Salina    | 606  | 0     | 989.3668  | 997.52990 | 1004.0603 | 1012.223           |
| 747 | 743 Cicero    | 418  | 0     | 858.99974 | 865.1648  | 869.27486 | 875.4399           |
| 748 | 744 Cicero    | 28   | 0     | 49.777730 | 49.777730 | 49.777730 | 49.777730800000001 |
| 749 | 745 Clay      | 222  | 0     | 522.00021 | 524.3516  | 526.7029  | 531.4056           |
| 750 | 746 Clay      | 443  | 0     | 1010.281  | 1014.842  | 1019.403  | 1023.964           |
| 751 | 747 Clay      | 739  | 0     | 1259.6590 | 1257.9544 | 1257.9544 | 1257.9544904400002 |
| 752 | 748 Clay      | 1    | 0     | 2         | 2         | 2         | 2                  |
| 753 | 749 Clay      | 56   | 0     | 105.9999  | 105.9999  | 105.9999  | 107.8928           |
| 754 | 750 Clay      | 1462 | 8     | 3113.8712 | 3111.747  | 3109.6224 | 3109.6224523999995 |
| 755 | 751 Cicero    | 0    | 0     | 0         | 0         | 0         | 0                  |
| 756 | 752 Cicero    | 315  | 5     | 665.5156  | 671.80624 | 678.09687 | 684.3874999999998  |
| 757 | 753 Clay      | 288  | 0     | 684.6593  | 684.6593  | 684.6593  | 684.6593           |
| 758 | 754 Clay      | 586  | 0     | 1380.3562 | 1382.7117 | 1387.423  | 1392.1340097000002 |
| 759 | 755 Clay      | 389  | 0     | 951.5549  | 954.0011  | 956.4472  | 958.8933872000001  |
| 760 | 756 Clay      | 6    | 0     | 11.000010 | 11.000010 | 12.83335  | 14.66668           |
| 761 | 757 Van Buren | 693  | 0     | 1351.298  | 1349.348  | 1347.398  | 1347.398           |
| 762 | 758 Cicero    | 57   | 0     | 134.63789 | 144.08616 | 151.1724  | 160.62064439999997 |
| 763 | 759 Cicero    | 146  | 0     | 298.0001  | 300.04117 | 302.08226 | 304.12336360000006 |
| 764 | 760 Cicero    | 195  | 0     | 429.59416 | 429.59416 | 429.59416 | 431.7972           |
| 765 | 761 Clay      | 536  | 0     | 1375.8657 | 1378.4326 | 1383.566  | 1388.7003117000002 |
| 766 | 762 Clay      | 363  | 0     | 922.9155  | 930.54294 | 938.1703  | 945.7977426000001  |
| 767 | 763 Salina    | 205  | 0     | 479.3241  | 479.3241  | 481.66225 | 484.0004           |
| 768 | 764 Lysander  | 280  | 0     | 694.18830 | 1090.867  | 1398.294  | 1705.72            |
| 769 | 765 Cicero    | 9    | 0     | 24.75     | 24.75     | 24.75     | 24.75              |
| 770 | 766 Cicero    | 49   | 0     | 89.179999 | 89.179999 | 89.179999 | 89.17999999999998  |
| 771 | 767 Van Buren | 79   | 0     | 184.6625  | 187       | 189.3375  | 191.67500000000004 |
| 772 | 768 Clay      | 243  | 0     | 597.4591  | 599.9177  | 604.83510 | 609.7525           |
| 773 | 769 Cicero    | 124  | 0     | 286.688   | 286.688   | 286.688   | 286.688            |



| TAZ | Town_City     | HH17 | HH_GQ | pop17     | pop30     | pop40     | pop50              |
|-----|---------------|------|-------|-----------|-----------|-----------|--------------------|
| 774 | 770 Cicero    | 37   | 0     | 83.25007  | 171.0001  | 238.50020 | 308.2502603000001  |
| 775 | 771 Van Buren | 651  | 0     | 1310.9999 | 1321.069  | 1331.1382 | 1341.207           |
| 776 | 772 Van Buren | 179  | 0     | 427.61123 | 427.61123 | 430.0001  | 432.3890176000001  |
| 777 | 773 Van Buren | 111  | 0     | 266.598   | 268.9998  | 271.40154 | 276.20511170000003 |
| 778 | 774 Clay      | 464  | 0     | 1089      | 1093.694  | 1098.3879 | 1105.429           |
| 779 | 775 Van Buren | 257  | 0     | 471.00007 | 472.83275 | 476.49812 | 480.16349620000005 |
| 780 | 776 Van Buren | 47   | 0     | 112.22458 | 112.22458 | 114.6123  | 117.0001           |
| 781 | 777 Van Buren | 27   | 0     | 64.999970 | 64.999970 | 67.40738  | 69.81478270000001  |
| 782 | 778 Clay      | 497  | 0     | 1170.6453 | 1177.712  | 1184.7778 | 1191.8441392000002 |
| 783 | 779 Clay      | 134  | 0     | 327.9999  | 330.44766 | 332.89542 | 335.3432           |
| 784 | 780 Cicero    | 140  | 0     | 334.6097  | 341.77992 | 348.95013 | 356.1203           |
| 785 | 781 Clay      | 215  | 0     | 514.6067  | 517.0002  | 519.39370 | 521.7872           |
| 786 | 782 Clay      | 473  | 0     | 1070.527  | 1070.527  | 1072.79   | 1075.054           |
| 787 | 783 Cicero    | 25   | 0     | 51.923085 | 51.923085 | 51.923085 | 54.00000840000001  |
| 788 | 784 Cicero    | 420  | 3     | 852.90544 | 854.92903 | 858.9762  | 863.0233699999999  |
| 789 | 785 Clay      | 549  | 0     | 1419.585  | 1424.7569 | 1429.9284 | 1437.686           |
| 790 | 786 Lysander  | 262  | 0     | 787.11022 | 1279.8051 | 1661.3433 | 2042.882           |
| 791 | 787 Lysander  | 415  | 0     | 1006.061  | 1170.91   | 1299.395  | 1427.8794921800004 |
| 792 | 788 Clay      | 304  | 0     | 731.9999  | 729.59198 | 729.59198 | 729.5919880499998  |
| 793 | 789 Clay      | 88   | 0     | 235.3255  | 235.3255  | 235.3255  | 235.3255           |
| 794 | 790 Van Buren | 123  | 0     | 300.9882  | 298.54110 | 298.54110 | 298.54110039999995 |
| 795 | 791 Clay      | 416  | 0     | 976.34588 | 973.99889 | 973.99889 | 973.9988994999999  |
| 796 | 792 Cicero    | 227  | 0     | 621.9999  | 624.73994 | 627.48003 | 632.9602           |
| 797 | 793 Clay      | 3    | 0     | 3         | 3         | 3         | 3                  |
| 798 | 794 Clay      | 391  | 0     | 958.99960 | 958.99960 | 961.4523  | 963.905            |
| 799 | 795 Clay      | 743  | 5     | 2090.163  | 2109.808  | 2123.84   | 2140.679           |
| 800 | 796 Van Buren | 59   | 0     | 133.99984 | 136.271   | 138.54221 | 143.0846           |
| 801 | 797 Van Buren | 122  | 0     | 319.9622  | 327.83013 | 335.6981  | 346.1886           |
| 802 | 798 Van Buren | 717  | 0     | 1042.534  | 1099.2408 | 1142.861  | 1186.482           |
| 803 | 799 Clay      | 5    | 0     | 5         | 5         | 5         | 5                  |
| 804 | 800 Lysander  | 543  | 0     | 1642.1202 | 1642.1202 | 1642.1202 | 1645.1444489599994 |
| 805 | 801 Cicero    | 447  | 9     | 1162.3585 | 1183.0002 | 1198.4816 | 1216.543           |
| 806 | 802 Clay      | 88   | 0     | 203.99982 | 208.63618 | 213.27254 | 220.2271           |
| 807 | 803 Clay      | 228  | 0     | 505.2158  | 505.2158  | 505.2158  | 507.4316           |
| 808 | 804 Cicero    | 39   | 0     | 81.079    | 87.315841 | 91.47374  | 97.71058419999996  |
| 809 | 805 Cicero    | 0    | 0     | 0         | 0         | 1         | 2                  |
| 810 | 806 Cicero    | 7    | 0     | 18.200000 | 18.200000 | 18.200000 | 18.200000000000006 |
| 811 | 807 Cicero    | 510  | 0     | 1108.9999 | 1111.1744 | 1113.349  | 1115.5235068799998 |
| 812 | 808 Clay      | 260  | 4     | 665.36841 | 670.4559  | 675.54331 | 683.1744895600001  |
| 813 | 809 Van Buren | 386  | 15    | 904.8116  | 900.20121 | 897.89600 | 897.8960044999997  |
| 814 | 810 Van Buren | 110  | 0     | 243.78365 | 243.78365 | 243.78365 | 243.78365330000003 |
| 815 | 811 Van Buren | 93   | 0     | 234.0002  | 234.0002  | 234.0002  | 234.0002           |
| 816 | 812 Van Buren | 282  | 0     | 760.69852 | 811.95126 | 852.414   | 892.8766375000001  |



| TAZ | Town_City     | HH17 | HH_GQ | pop17     | pop30     | pop40     | pop50              |
|-----|---------------|------|-------|-----------|-----------|-----------|--------------------|
| 817 | 813 Clay      | 1258 | 3     | 2999.092  | 3041.962  | 3075.3046 | 3111.029           |
| 818 | 814 Van Buren | 125  | 0     | 300       | 410.4     | 496.8     | 583.2              |
| 819 | 815 Lysander  | 215  | 4     | 652.08614 | 685.244   | 712.37322 | 742.5167667499999  |
| 820 | 816 Lysander  | 101  | 0     | 285.97781 | 319.9554  | 348.27    | 376.5846           |
| 821 | 817 Cicero    | 466  | 0     | 834.9999  | 836.79170 | 840.37539 | 843.9591           |
| 822 | 818 Sullivan  | 22   | 0     | 56        | 56        | 56        | 58.54546           |
| 823 | 819 Sullivan  | 46   | 0     | 93.02222  | 95.04444  | 97.06666  | 101.11110499999998 |
| 824 | 820 Clay      | 29   | 0     | 70.999960 | 70.999960 | 70.999960 | 70.99996049999999  |
| 825 | 821 Lysander  | 104  | 0     | 196.8932  | 195       | 195       | 195                |
| 826 | 822 Lysander  | 85   | 0     | 191.2501  | 252.00010 | 299.25011 | 346.5001           |
| 827 | 823 Lysander  | 186  | 0     | 416       | 413.7635  | 413.7635  | 413.7635           |
| 828 | 824 Lysander  | 192  | 0     | 431.46076 | 429.2136  | 426.96637 | 426.96637740000006 |
| 829 | 825 Lysander  | 134  | 0     | 319.61449 | 319.61449 | 319.61449 | 319.61449520000014 |
| 830 | 826 Clay      | 390  | 0     | 1030.358  | 1038.283  | 1043.567  | 1051.493           |
| 831 | 827 Clay      | 614  | 0     | 1664.9990 | 1678.558  | 1689.405  | 1702.963           |
| 832 | 828 Cicero    | 603  | 0     | 1643.7274 | 1665.535  | 1684.6161 | 1703.698           |
| 833 | 829 Clay      | 103  | 0     | 221.1471  | 221.1471  | 221.1471  | 221.1471           |
| 834 | 830 Cicero    | 212  | 0     | 487.6994  | 499.2018  | 508.40363 | 519.906            |
| 835 | 831 Clay      | 615  | 0     | 1605.776  | 1603.165  | 1603.165  | 1603.165           |
| 836 | 832 Clay      | 1    | 0     | 1         | 1         | 2         | 3                  |
| 837 | 833 Clay      | 319  | 0     | 911.99895 | 937.7293  | 960.60078 | 983.4722           |
| 838 | 834 Cicero    | 218  | 0     | 443       | 449.09629 | 455.1926  | 461.28895183999987 |
| 839 | 835 Lysander  | 180  | 0     | 475.99982 | 478.6443  | 483.9332  | 489.22204380000005 |
| 840 | 836 Lysander  | 305  | 0     | 790.30374 | 813.6242  | 831.76230 | 852.4915807799998  |
| 841 | 837 Clay      | 528  | 0     | 1344.546  | 1357.279  | 1367.465  | 1380.197           |
| 842 | 838 Clay      | 409  | 0     | 1115.1547 | 1289.653  | 1425.98   | 1562.3073054000001 |
| 843 | 839 Lysander  | 184  | 0     | 457.1779  | 479.5398  | 499.4171  | 519.2944395100002  |
| 844 | 840 Lysander  | 60   | 0     | 123       | 151.7     | 176.29999 | 200.9              |
| 845 | 841 Clay      | 966  | 0     | 2668.239  | 2698.622  | 2720.72   | 2745.579           |
| 846 | 842 Lysander  | 254  | 0     | 526.2153  | 532.4305  | 538.6456  | 544.8608           |
| 847 | 843 Sullivan  | 161  | 0     | 340.45872 | 344.688   | 348.9173  | 355.26128064000005 |
| 848 | 844 Lysander  | 308  | 0     | 869.99947 | 867.1748  | 864.35012 | 864.3501246599999  |
| 849 | 845 Lysander  | 172  | 0     | 508.0002  | 534.5816  | 555.25599 | 578.8839           |
| 850 | 846 Lysander  | 623  | 4     | 1599.01   | 1660.4550 | 1709.099  | 1760.303           |
| 851 | 847 Lysander  | 155  | 0     | 340.1947  | 337.99992 | 337.99992 | 337.9999299600001  |
| 852 | 848 Lysander  | 143  | 0     | 364.9998  | 413.4963  | 451.783   | 492.6221           |
| 853 | 849 Cicero    | 230  | 0     | 549.38888 | 547.0002  | 547.0002  | 547.0002           |
| 854 | 850 Cicero    | 504  | 0     | 1082.852  | 1080.703  | 1080.703  | 1080.703           |
| 855 | 851 Clay      | 1079 | 2     | 2793.24   | 3095.9040 | 3328.723  | 3564.129           |
| 856 | 852 Cicero    | 93   | 0     | 252.7176  | 282.60890 | 307.06544 | 334.23937589999997 |
| 857 | 853 Cicero    | 150  | 0     | 316.9997  | 378.2863  | 424.7796  | 473.3862           |
| 858 | 854 Cicero    | 31   | 0     | 86.799950 | 86.799950 | 86.799950 | 86.79995040000001  |
| 859 | 855 Cicero    | 352  | 0     | 1071.955  | 1129.816  | 1175.496  | 1221.176           |



| TAZ | Town_City    | HH17 | HH_GQ | pop17     | pop30     | pop40     | pop50              |
|-----|--------------|------|-------|-----------|-----------|-----------|--------------------|
| 860 | 856 Cicero   | 133  | 0     | 374.0001  | 376.81212 | 382.4362  | 388.0603           |
| 861 | 857 Clay     | 357  | 0     | 699.042   | 775.40798 | 834.151   | 892.894            |
| 862 | 858 Clay     | 729  | 0     | 1879.158  | 1876.58   | 1876.58   | 1876.58            |
| 863 | 859 Clay     | 1046 | 0     | 2343.999  | 2406.745  | 2456.045  | 2507.586380370001  |
| 864 | 860 Sullivan | 120  | 0     | 307.0588  | 348       | 378.7059  | 411.9706           |
| 865 | 861 Clay     | 649  | 0     | 1937.002  | 1934.017  | 1934.017  | 1934.017           |
| 866 | 862 Clay     | 8    | 0     | 18.2857   | 18.2857   | 18.2857   | 18.2857            |
| 867 | 863 Clay     | 228  | 0     | 596.0004  | 601.22850 | 606.4566  | 611.6847           |
| 868 | 864 Clay     | 118  | 0     | 287.30452 | 309.2176  | 326.26106 | 345.73934220000007 |
| 869 | 865 Sullivan | 67   | 0     | 150.24258 | 154.72743 | 159.2123  | 163.6971           |
| 870 | 866 Cicero   | 422  | 0     | 1113      | 1134.0993 | 1149.924  | 1168.3861016299998 |
| 871 | 867 Clay     | 156  | 0     | 365.2678  | 524.4871  | 648.58444 | 772.6818           |
| 872 | 868 Clay     | 99   | 0     | 212.85    | 313.90000 | 391.3     | 470.85             |
| 873 | 869 Lysander | 292  | 0     | 841.1198  | 869.92526 | 892.96964 | 916.014            |
| 874 | 870 Lysander | 601  | 0     | 1359.7103 | 1357.4478 | 1357.4478 | 1357.4478900000001 |
| 875 | 871 Cicero   | 16   | 0     | 39        | 136.5     | 212.0625  | 287.625            |
| 876 | 872 Cicero   | 6    | 0     | 13.200000 | 13.200000 | 15.400000 | 17.6               |
| 877 | 873 Cicero   | 572  | 0     | 1613.931  | 1653.4331 | 1687.292  | 1721.1505263999998 |
| 878 | 874 Cicero   | 263  | 0     | 575.9919  | 661.40510 | 727.10760 | 792.8100966800001  |
| 879 | 875 Cicero   | 450  | 0     | 1261.476  | 1289.509  | 1311.935  | 1334.362           |
| 880 | 876 Clay     | 0    | 0     | 0         | 0         | 0         | 0                  |
| 881 | 877 Clay     | 0    | 0     | 0         | 0         | 0         | 0                  |
| 882 | 878 Lysander | 524  | 0     | 897.7126  | 913.1313  | 925.1237  | 938.8292           |
| 883 | 879 Clay     | 99   | 0     | 216.81000 | 223.38000 | 229.95    | 238.71000000000004 |
| 884 | 880 Clay     | 2    | 0     | 4         | 6         | 10        | 14                 |
| 885 | 881 Clay     | 7    | 0     | 16.999982 | 19.42855  | 24.28569  | 29.142827999999994 |
| 886 | 882 Clay     | 64   | 0     | 151.6307  | 153.99997 | 158.73843 | 163.47689760000003 |
| 887 | 883 Lysander | 19   | 0     | 54.99997  | 69.47364  | 81.05258  | 92.63152           |
| 888 | 884 Cicero   | 924  | 0     | 2550.764  | 2548.0030 | 2545.242  | 2545.242           |
| 889 | 885 Cicero   | 283  | 0     | 793.19760 | 790.39478 | 790.39478 | 790.3947887999999  |
| 890 | 886 Cicero   | 180  | 0     | 460.5589  | 460.5589  | 460.5589  | 460.5589           |
| 891 | 887 Clay     | 277  | 0     | 415.5     | 487.5     | 544.5     | 601.5              |
| 892 | 888 Clay     | 15   | 0     | 33.21431  | 33.21431  | 33.21431  | 33.21431           |
| 893 | 889 Clay     | 23   | 0     | 61.681860 | 61.681860 | 61.681860 | 61.68186000000001  |
| 894 | 890 Lysander | 339  | 0     | 817.28687 | 843.80651 | 863.09351 | 884.7914           |
| 895 | 891 Lysander | 266  | 0     | 696.2625  | 693.6449  | 693.6449  | 693.6449           |
| 896 | 892 Lysander | 213  | 0     | 558.9993  | 561.6237  | 566.8726  | 572.1214           |
| 897 | 893 Clay     | 26   | 0     | 64.000024 | 66.46156  | 68.923103 | 73.84618           |
| 898 | 894 Clay     | 6    | 0     | 10.800000 | 10.800000 | 10.800000 | 10.800000000000002 |
| 899 | 895 Lysander | 623  | 7     | 1398.096  | 1413.726  | 1424.89   | 1438.288           |
| 900 | 896 Lysander | 249  | 0     | 664.3365  | 675.0086  | 685.6806  | 696.3527           |
| 901 | 1112 Clay    | 65   | 0     | 149.3617  | 280.34043 | 381.4468  | 482.5532           |
| 902 | 1109 Clay    | 9    | 0     | 19.800000 | 19.800000 | 19.800000 | 19.800000000000004 |



| TAZ | Town_City     | HH17 | HH_GQ | pop17     | pop30     | pop40     | pop50               |
|-----|---------------|------|-------|-----------|-----------|-----------|---------------------|
| 903 | 1110 Clay     | 12   | 0     | 26.999996 | 26.999996 | 26.999996 | 26.99999640000001   |
| 904 | 1111 Clay     | 10   | 0     | 22.72727  | 22.72727  | 22.72727  | 22.72727            |
| 905 | 898 Clay      | 37   | 0     | 91.695653 | 126.3913  | 153.6522  | 180.913             |
| 906 | 899 Clay      | 12   | 0     | 22.90909  | 49.636368 | 70.63637  | 91.63637            |
| 907 | 900 Clay      | 21   | 0     | 58.8      | 61.6      | 67.2      | 72.8                |
| 908 | 901 Clay      | 26   | 0     | 63.44     | 117.12    | 161.04000 | 204.96              |
| 909 | 902 Cicero    | 403  | 0     | 1008.0000 | 1085.539  | 1145.5682 | 1208.09930640000002 |
| 910 | 903 Cicero    | 93   | 0     | 181.00004 | 217.9785  | 247.1721  | 278.3119            |
| 911 | 904 Cicero    | 71   | 0     | 131.85711 | 222.8571  | 293.42851 | 363.999930000000006 |
| 912 | 905 Cicero    | 138  | 0     | 326.2714  | 366.4642  | 399.5642  | 432.6642            |
| 913 | 906 Clay      | 27   | 0     | 71.65382  | 76.961513 | 82.269204 | 87.57689            |
| 914 | 907 Clay      | 26   | 0     | 60.32     | 127.59999 | 180.96    | 234.32              |
| 915 | 908 Clay      | 119  | 0     | 261.80001 | 261.80001 | 261.80001 | 261.8000119000001   |
| 916 | 909 Lysander  | 390  | 0     | 992.728   | 1005.4552 | 1015.637  | 1028.3643694399998  |
| 917 | 910 Lysander  | 81   | 0     | 181       | 192.1728  | 201.1111  | 212.2839            |
| 918 | 911 Schroeppe | 61   | 0     | 116.00002 | 117.9017  | 119.8033  | 123.60658049999998  |
| 919 | 912 Cicero    | 304  | 0     | 671.24847 | 669.04042 | 669.04042 | 669.0404225999998   |
| 920 | 913 Cicero    | 89   | 0     | 230.5911  | 230.5911  | 230.5911  | 230.5911            |
| 921 | 914 Schroeppe | 101  | 4     | 229.0858  | 233.54290 | 238.00004 | 242.4572            |
| 922 | 915 Lysander  | 138  | 0     | 375.0001  | 385.8697  | 396.7393  | 407.6089            |
| 923 | 916 Cicero    | 493  | 0     | 1354.253  | 1373.482  | 1389.9640 | 1406.446            |
| 924 | 917 Schroeppe | 141  | 0     | 336.00012 | 343.14906 | 350.29800 | 359.8299196000001   |
| 925 | 918 Clay      | 188  | 0     | 462.99997 | 470.38826 | 477.7766  | 487.62762840000005  |
| 926 | 919 Clay      | 165  | 0     | 417.2901  | 480.5159  | 531.09649 | 581.6771            |
| 927 | 920 Schroeppe | 83   | 0     | 200.00007 | 207.229   | 214.4579  | 221.68683399999998  |
| 928 | 921 Schroeppe | 90   | 0     | 205.7141  | 212.57125 | 217.14267 | 223.99981520000003  |
| 929 | 922 Clay      | 119  | 0     | 305.38571 | 520.9521  | 687.75942 | 854.5667445000001   |
| 930 | 923 Clay      | 28   | 0     | 66.62062  | 88.034388 | 107.0689  | 126.10331340000002  |
| 931 | 924 Schroeppe | 162  | 0     | 378.675   | 390.3625  | 399.7125  | 409.0625            |
| 932 | 925 Schroeppe | 77   | 0     | 146.90783 | 150.7236  | 154.53941 | 158.35520200000005  |
| 933 | 926 Schroeppe | 55   | 0     | 142.59275 | 145.18534 | 147.77794 | 152.96313450000005  |
| 934 | 927 Cicero    | 282  | 0     | 812.45804 | 809.57698 | 809.57698 | 809.5769832799998   |
| 935 | 928 Cicero    | 390  | 0     | 783.0004  | 801.06960 | 815.12345 | 831.1850013599999   |
| 936 | 929 Cicero    | 408  | 0     | 1116      | 1140.617  | 1159.764  | 1181.6467401599998  |
| 937 | 930 Schroeppe | 83   | 0     | 174.89294 | 179.10723 | 183.3215  | 189.64295100000004  |
| 938 | 931 Schroeppe | 30   | 0     | 55.86207  | 57.724135 | 59.5862   | 61.44827            |
| 939 | 932 Schroeppe | 51   | 0     | 132.1836  | 134.7754  | 137.3672  | 142.55091399999998  |
| 940 | 933 Cicero    | 126  | 0     | 265       | 265       | 267.1031  | 269.2063            |
| 941 | 934 Cicero    | 136  | 0     | 306.00003 | 308.25    | 310.5     | 312.75              |
| 942 | 935 Schroeppe | 143  | 0     | 239.3263  | 244.3472  | 247.6944  | 252.7152            |
| 943 | 936 Hastings  | 74   | 0     | 157.5142  | 159.64279 | 161.7714  | 166.02850680000003  |
| 944 | 937 Hastings  | 128  | 0     | 270.336   | 276.672   | 280.89599 | 287.232             |
| 945 | 938 Hastings  | 161  | 0     | 358.9997  | 370.1488  | 379.068   | 390.2171            |



| TAZ | Town_City     | HH17 | HH_GQ | pop17     | pop30     | pop40     | pop50              |
|-----|---------------|------|-------|-----------|-----------|-----------|--------------------|
| 946 | 939 Hastings  | 92   | 0     | 210.2856  | 226.2856  | 239.9999  | 253.71415410000003 |
| 947 | 940 Hastings  | 143  | 0     | 366.4378  | 369.0003  | 371.5628  | 376.6878           |
| 948 | 941 Hastings  | 224  | 0     | 291.99998 | 295.9107  | 299.8214  | 303.7321           |
| 949 | 942 Hastings  | 103  | 0     | 235       | 237.2816  | 241.8447  | 246.4078           |
| 950 | 943 Hastings  | 74   | 0     | 167.0001  | 182.7974  | 194.08123 | 207.6218           |
| 951 | 944 Hastings  | 172  | 7     | 437.9665  | 468.0339  | 490.5845  | 515.6406529399999  |
| 952 | 945 Hastings  | 113  | 0     | 212.99987 | 222.4246  | 231.8494  | 241.2742           |
| 953 | 946 Hastings  | 200  | 0     | 544.162   | 574.0909  | 598.5782  | 625.7863           |
| 954 | 947 Hastings  | 23   | 0     | 52.708327 | 54.99999  | 59.58333  | 64.16665920000001  |
| 955 | 948 Hastings  | 93   | 0     | 223.5959  | 242.82998 | 257.2555  | 274.08533220000004 |
| 956 | 949 Hastings  | 22   | 0     | 54.52178  | 54.52178  | 57.000044 | 59.47831           |
| 957 | 950 Hastings  | 20   | 0     | 64        | 64        | 67.2      | 70.4               |
| 958 | 951 Hastings  | 120  | 0     | 234.0496  | 253.5537  | 269.157   | 284.7602980000001  |
| 959 | 952 Hastings  | 22   | 0     | 55.5238   | 55.5238   | 58.04761  | 60.57142           |
| 960 | 953 Hastings  | 78   | 0     | 206.35446 | 222.2279  | 235.4557  | 251.3292           |
| 961 | 954 Hastings  | 3    | 0     | 9.75      | 9.75      | 9.75      | 13                 |
| 962 | 955 West Monr | 101  | 0     | 253.51    | 261.04    | 268.57    | 276.1              |
| 963 | 956 Hastings  | 121  | 0     | 328.00016 | 338.8431  | 346.9754  | 357.8184           |
| 964 | 957 Sullivan  | 57   | 0     | 140.4643  | 142.92859 | 145.39288 | 147.8572           |
| 965 | 958 Sullivan  | 55   | 0     | 123       | 125.23637 | 127.4727  | 129.70910619999998 |
| 966 | 959 Sullivan  | 137  | 5     | 342.07880 | 344.5392  | 349.46009 | 355.3809520800001  |
| 967 | 960 Sullivan  | 262  | 0     | 596.2758  | 609.93096 | 621.3103  | 632.6895859599998  |
| 968 | 961 Sullivan  | 90   | 0     | 220.99988 | 223.45544 | 225.91099 | 230.8221           |
| 969 | 962 Sullivan  | 30   | 0     | 70.000019 | 70.000019 | 70.000019 | 70.00001999999999  |
| 970 | 963 Sullivan  | 92   | 0     | 181.9555  | 183.9332  | 185.91101 | 187.88879599999998 |
| 971 | 964 Sullivan  | 295  | 0     | 703.9308  | 715.8619  | 725.4067  | 737.3377127100001  |
| 972 | 965 Sullivan  | 65   | 0     | 145.2344  | 147.4688  | 149.7031  | 154.1719           |
| 973 | 966 Sullivan  | 83   | 0     | 213.573   | 213.573   | 216.1462  | 218.7193           |
| 974 | 967 Sullivan  | 174  | 0     | 385.783   | 392.4344  | 399.08583 | 407.9544           |
| 975 | 968 Sullivan  | 8    | 0     | 18.2857   | 18.2857   | 18.2857   | 18.2857            |
| 976 | 969 Sullivan  | 35   | 0     | 81.323553 | 81.323553 | 83.647083 | 85.97061370000002  |
| 977 | 970 Sullivan  | 31   | 0     | 84.28125  | 84.28125  | 87        | 89.71875           |
| 978 | 971 Sullivan  | 16   | 0     | 42        | 42        | 42        | 44.625             |
| 979 | 972 Sullivan  | 12   | 0     | 22.909076 | 22.909076 | 22.909076 | 22.909076400000004 |
| 980 | 973 Sullivan  | 50   | 0     | 130.39212 | 133       | 135.6078  | 138.21565250000003 |
| 981 | 974 Sullivan  | 42   | 0     | 103.4634  | 103.4634  | 105.92679 | 108.3902           |
| 982 | 975 Sullivan  | 104  | 0     | 262.9997  | 268.05738 | 273.1151  | 278.17276080000005 |
| 983 | 976 Sullivan  | 43   | 0     | 116.7144  | 116.7144  | 119.4287  | 122.143            |
| 984 | 977 Sullivan  | 90   | 0     | 232.58437 | 235.16864 | 237.7529  | 240.3372           |
| 985 | 978 Sullivan  | 24   | 0     | 60.00002  | 60.00002  | 60.00002  | 62.50001749999999  |
| 986 | 979 Sullivan  | 40   | 0     | 94.35894  | 94.35894  | 96.71791  | 99.07689           |
| 987 | 980 Sullivan  | 92   | 0     | 232.9999  | 235.53255 | 240.59776 | 245.663            |
| 988 | 981 Sullivan  | 70   | 0     | 175.9998  | 178.51408 | 181.0284  | 183.5427           |



| TAZ  | Town_City      | HH17 | HH_GQ | pop17     | pop30     | pop40     | pop50              |
|------|----------------|------|-------|-----------|-----------|-----------|--------------------|
| 989  | 982 Sullivan   | 177  | 0     | 438.4774  | 448.3865  | 455.8183  | 465.7274           |
| 990  | 983 Sullivan   | 8    | 0     | 20        | 20        | 20        | 20                 |
| 991  | 984 Sullivan   | 85   | 0     | 208.4523  | 210.9047  | 213.35705 | 218.26181110000002 |
| 992  | 985 Sullivan   | 24   | 0     | 64.363667 | 64.363667 | 64.363667 | 67.04548750000001  |
| 993  | 986 Sullivan   | 92   | 0     | 253.25813 | 256.0109  | 258.7637  | 261.51655100000005 |
| 994  | 987 Sullivan   | 30   | 0     | 70.34478  | 70.34478  | 72.689606 | 75.03443           |
| 995  | 988 Sullivan   | 122  | 0     | 320.5086  | 323.1358  | 325.7629  | 331.0171           |
| 996  | 989 Sullivan   | 125  | 0     | 321.4288  | 329.14307 | 334.28593 | 342.0002           |
| 997  | 990 Sullivan   | 51   | 0     | 117.6924  | 120.0001  | 122.3078  | 124.61547599999996 |
| 998  | 991 Sullivan   | 33   | 0     | 77.647036 | 77.647036 | 79.99998  | 82.35292           |
| 999  | 992 Sullivan   | 478  | 0     | 1131.367  | 1159.769  | 1183.438  | 1207.107           |
| 1000 | 993 Sullivan   | 147  | 0     | 318.3309  | 324.82741 | 331.32396 | 339.986            |
| 1001 | 994 Sullivan   | 74   | 0     | 159.99997 | 162.1621  | 164.32429 | 168.64862040000003 |
| 1002 | 995 Sullivan   | 318  | 7     | 742.4965  | 760.9995  | 774.8768  | 792.067            |
| 1003 | 996 Sullivan   | 463  | 0     | 1115      | 1143.8981 | 1165.572  | 1189.654           |
| 1004 | 997 Sullivan   | 118  | 0     | 258.3793  | 262.7586  | 267.1379  | 273.7069           |
| 1005 | 998 Sullivan   | 295  | 5     | 793.55815 | 790.8851  | 788.212   | 789.212            |
| 1006 | 999 Sullivan   | 8    | 0     | 22.857120 | 22.857120 | 22.857120 | 22.857120000000002 |
| 1007 | 1000 Sullivan  | 32   | 0     | 74.32249  | 74.32249  | 76.64506  | 78.96764           |
| 1008 | 1001 Sullivan  | 31   | 0     | 77.999983 | 77.999983 | 80.516111 | 83.03224           |
| 1009 | 1002 Sullivan  | 31   | 0     | 78.999900 | 78.999900 | 81.54828  | 84.09666870000001  |
| 1010 | 1003 Sullivan  | 63   | 0     | 139.2097  | 141.41934 | 143.629   | 148.04837909999995 |
| 1011 | 1004 Sullivan  | 35   | 0     | 73.088263 | 73.088263 | 75.1765   | 77.26473569999997  |
| 1012 | 1005 Sullivan  | 21   | 0     | 50.400000 | 50.400000 | 50.400000 | 52.8               |
| 1013 | 1006 Sullivan  | 99   | 0     | 221.23465 | 223.4694  | 227.93873 | 232.40812400000002 |
| 1014 | 1007 Sullivan  | 69   | 0     | 147.00002 | 149.1305  | 151.26089 | 155.52176960000003 |
| 1015 | 1008 Sullivan  | 35   | 0     | 88.000118 | 88.000118 | 90.514407 | 93.02869670000001  |
| 1016 | 1009 Granby    | 44   | 0     | 102       | 104.3181  | 106.63632 | 108.95450700000002 |
| 1017 | 1010 Schroeppe | 57   | 0     | 128.9999  | 131.26304 | 133.5262  | 135.78936000000002 |
| 1018 | 1011 Schroeppe | 136  | 0     | 359.0001  | 366.9192  | 374.8383  | 382.75745120000005 |
| 1019 | 1012 Schroeppe | 78   | 0     | 208.3293  | 211.0002  | 216.34200 | 221.6838           |
| 1020 | 1013 Schroeppe | 29   | 0     | 70.88882  | 70.88882  | 70.88882  | 73.33326600000001  |
| 1021 | 1014 Schroeppe | 40   | 0     | 104       | 104       | 106.6     | 109.2              |
| 1022 | 1015 Schroeppe | 34   | 0     | 78.99995  | 78.99995  | 81.323472 | 83.64700080000001  |
| 1023 | 1016 Schroeppe | 17   | 0     | 39.66666  | 39.66666  | 39.66666  | 41.99999           |
| 1024 | 1017 Schroeppe | 67   | 0     | 161.9998  | 164.41775 | 166.83565 | 171.67147509999995 |
| 1025 | 1018 Schroeppe | 30   | 0     | 70.64517  | 70.64517  | 73.000012 | 75.35485           |
| 1026 | 1019 Schroeppe | 34   | 0     | 102       | 102       | 105       | 108                |
| 1027 | 1020 Schroeppe | 42   | 0     | 115.5     | 115.5     | 118.25    | 121                |
| 1028 | 1021 Schroeppe | 66   | 0     | 170.00006 | 172.57582 | 175.15158 | 180.3031           |
| 1029 | 1022 Schroeppe | 15   | 0     | 31.07143  | 31.07143  | 31.07143  | 33.142854400000004 |
| 1030 | 1023 Schroeppe | 212  | 0     | 561.64933 | 574.8958  | 585.4929  | 598.7393885800002  |
| 1031 | 1024 Schroeppe | 56   | 0     | 131.7037  | 134.05558 | 136.4074  | 138.7593           |



| TAZ  | Town_City      | HH17 | HH_GQ | pop17     | pop30     | pop40     | pop50              |
|------|----------------|------|-------|-----------|-----------|-----------|--------------------|
| 1032 | 1025 Schroeppe | 96   | 0     | 237.00004 | 239.4688  | 241.93754 | 246.8751           |
| 1033 | 1026 Schroeppe | 30   | 0     | 76.071486 | 76.071486 | 78.607202 | 81.14291840000001  |
| 1034 | 1027 Schroeppe | 46   | 0     | 119.5999  | 122.1999  | 124.7999  | 127.3999           |
| 1035 | 1028 Schroeppe | 54   | 0     | 120.4616  | 122.6924  | 124.9231  | 127.1539           |
| 1036 | 1029 Schroeppe | 199  | 0     | 424.9998  | 435.67815 | 444.2209  | 452.7636           |
| 1037 | 1030 Schroeppe | 46   | 0     | 99.0001   | 101.15227 | 103.30445 | 105.4566           |
| 1038 | 1031 Schroeppe | 55   | 0     | 138.5184  | 141.037   | 143.55546 | 146.07398600000005 |
| 1039 | 1032 Schroeppe | 261  | 0     | 666.5535  | 681.87653 | 694.6458  | 709.9688           |
| 1040 | 1033 Schroeppe | 98   | 0     | 274.60435 | 280.20853 | 285.8127  | 291.41687119999995 |
| 1041 | 1034 Schroeppe | 171  | 0     | 395.2455  | 399.86821 | 404.491   | 411.4251           |
| 1042 | 1035 Schroeppe | 29   | 0     | 65.73334  | 65.73334  | 65.73334  | 68.00000700000001  |
| 1043 | 1036 Schroeppe | 60   | 0     | 149.49151 | 151.98304 | 154.4746  | 159.45761919999998 |
| 1044 | 1037 Schroeppe | 11   | 0     | 21.083331 | 21.083331 | 21.083331 | 21.083331500000003 |
| 1045 | 1038 Schroeppe | 21   | 0     | 40.95     | 40.95     | 40.95     | 42.90000000000001  |
| 1046 | 1039 Schroeppe | 39   | 0     | 104.3513  | 104.3513  | 107.0269  | 109.7026           |
| 1047 | 1040 Hastings  | 69   | 0     | 162.99996 | 165.3623  | 167.72459 | 172.44923590000002 |
| 1048 | 1041 Hastings  | 39   | 0     | 97.499984 | 97.499984 | 99.99998  | 102.5              |
| 1049 | 1042 Hastings  | 184  | 0     | 441.3987  | 450.99433 | 460.59    | 470.1856           |
| 1050 | 1043 Hastings  | 54   | 0     | 149.0001  | 151.75938 | 154.5186  | 157.27790549999997 |
| 1051 | 1044 Hastings  | 30   | 0     | 77.142873 | 77.142873 | 79.714302 | 82.28573119999999  |
| 1052 | 1045 Hastings  | 12   | 0     | 28.363627 | 28.363627 | 28.363627 | 28.363627200000003 |
| 1053 | 1046 Hastings  | 118  | 0     | 337.0003  | 345.5681  | 351.28    | 359.8478074800001  |
| 1054 | 1047 Hastings  | 35   | 0     | 87.000081 | 87.000081 | 89.485797 | 91.97151420000002  |
| 1055 | 1048 Hastings  | 18   | 0     | 55.058832 | 55.058832 | 55.058832 | 58.117656000000004 |
| 1056 | 1049 Hastings  | 27   | 0     | 62.307743 | 62.307743 | 62.307743 | 64.61544           |
| 1057 | 1050 Hastings  | 33   | 0     | 83.47055  | 83.47055  | 85.99996  | 88.52937100000003  |
| 1058 | 1051 Hastings  | 71   | 0     | 201.9999  | 204.845   | 207.69003 | 213.3802           |
| 1059 | 1052 Hastings  | 111  | 0     | 300.1112  | 302.8149  | 305.5186  | 308.2222765200001  |
| 1060 | 1053 Hastings  | 41   | 0     | 91.7619   | 91.7619   | 93.999998 | 96.23809           |
| 1061 | 1054 Hastings  | 96   | 0     | 285.0309  | 290.96900 | 296.9072  | 302.8453           |
| 1062 | 1055 Hastings  | 79   | 0     | 179.72500 | 182       | 186.55    | 191.1              |
| 1063 | 1056 Hastings  | 108  | 0     | 254.7172  | 257.0757  | 261.7926  | 266.5096           |
| 1064 | 1057 Hastings  | 78   | 0     | 195       | 197.5     | 202.5     | 207.5              |
| 1065 | 1058 Hastings  | 104  | 0     | 267       | 272.1346  | 277.2692  | 284.9711           |
| 1066 | 1059 Hastings  | 41   | 0     | 112.26196 | 112.26196 | 115.0001  | 117.7382           |
| 1067 | 1060 Hastings  | 111  | 0     | 314.9998  | 320.67551 | 326.3512  | 334.8647           |
| 1068 | 1061 Hastings  | 64   | 0     | 188       | 190.9375  | 193.875   | 199.75             |
| 1069 | 1062 Hastings  | 12   | 0     | 20.72726  | 20.72726  | 20.72726  | 20.72726           |
| 1070 | 1063 Hastings  | 26   | 0     | 75.920000 | 75.920000 | 75.920000 | 78.84              |
| 1071 | 1064 Hastings  | 24   | 0     | 67.826164 | 67.826164 | 67.826164 | 70.65225500000001  |
| 1072 | 1065 Hastings  | 58   | 0     | 163.00010 | 165.8105  | 168.62080 | 171.4311           |
| 1073 | 1066 Hastings  | 29   | 0     | 81.82143  | 81.82143  | 81.82143  | 84.64286100000002  |
| 1074 | 1067 Hastings  | 89   | 0     | 223.9669  | 228.99990 | 234.0329  | 239.06583750000004 |



| TAZ  | Town_City      | HH17 | HH_GQ | pop17     | pop30     | pop40     | pop50              |
|------|----------------|------|-------|-----------|-----------|-----------|--------------------|
| 1075 | 1068 West Monr | 25   | 0     | 64.42308  | 64.42308  | 64.42308  | 67                 |
| 1076 | 1069 West Monr | 34   | 0     | 82.424197 | 82.424197 | 84.84844  | 87.27267959999998  |
| 1077 | 1070 West Monr | 33   | 0     | 85.41172  | 85.41172  | 87.999956 | 90.58819           |
| 1078 | 1071 West Monr | 19   | 0     | 39.05556  | 39.05556  | 39.05556  | 41.11112           |
| 1079 | 1072 West Monr | 59   | 0     | 129.18959 | 131.3792  | 133.56890 | 137.9482           |
| 1080 | 1073 West Monr | 25   | 0     | 57.692360 | 57.692360 | 57.692360 | 60.000054399999996 |
| 1081 | 1074 West Monr | 96   | 0     | 278.7098  | 281.613   | 284.51627 | 290.3227           |
| 1082 | 1075 West Monr | 127  | 0     | 319.9996  | 327.5587  | 332.598   | 340.1571           |
| 1083 | 1076 West Monr | 37   | 0     | 84.57151  | 84.57151  | 86.85723  | 89.14294740000001  |
| 1084 | 1077 West Monr | 51   | 0     | 137.99988 | 140.7058  | 143.41164 | 146.11751999999998 |
| 1085 | 1078 West Monr | 75   | 0     | 176.35130 | 178.7027  | 183.40535 | 188.1081           |
| 1086 | 1079 West Monr | 106  | 0     | 266.48601 | 271.514   | 276.5421  | 284.08414474000006 |
| 1087 | 1080 West Monr | 49   | 0     | 125.99999 | 128.57142 | 131.1429  | 133.7143           |
| 1088 | 1081 West Monr | 80   | 0     | 186.66659 | 188.9999  | 193.6666  | 198.3333           |
| 1089 | 1082 West Monr | 66   | 0     | 172.00007 | 174.6061  | 177.2122  | 182.42431900000003 |
| 1090 | 1083 West Monr | 69   | 0     | 187.7205  | 190.441   | 193.16163 | 198.6028           |
| 1091 | 1084 West Monr | 59   | 0     | 148.9999  | 151.52533 | 154.0508  | 159.10159860000002 |
| 1092 | 1085 Hastings  | 37   | 0     | 95.99994  | 95.99994  | 98.59453  | 101.18912699999998 |
| 1093 | 1086 West Monr | 48   | 0     | 117.00002 | 119.43752 | 121.875   | 124.31253060000002 |
| 1094 | 1087 West Monr | 103  | 0     | 238.0001  | 242.6215  | 247.24287 | 251.86423336000004 |
| 1095 | 1088 West Monr | 82   | 0     | 193.358   | 195.716   | 200.432   | 205.1481           |
| 1096 | 1089 West Monr | 31   | 0     | 74.399941 | 74.399941 | 76.79994  | 79.19993729999999  |
| 1097 | 1090 Schroeppe | 6    | 0     | 18.99999  | 18.99999  | 18.99999  | 18.99999           |
| 1098 | 1091 Schroeppe | 26   | 0     | 67.40735  | 67.40735  | 67.40735  | 69.99994           |
| 1099 | 1092 Schroeppe | 17   | 0     | 40.999979 | 40.999979 | 40.999979 | 43.41174           |
| 1100 | 1093 Schroeppe | 19   | 0     | 54.764716 | 54.764716 | 54.764716 | 57.64706999999999  |
| 1101 | 1094 Schroeppe | 7    | 0     | 18.99998  | 18.99998  | 18.99998  | 18.99998           |
| 1102 | 1095 Schroeppe | 72   | 0     | 184.5634  | 187.1268  | 189.6902  | 194.8169           |
| 1103 | 1096 West Monr | 17   | 0     | 37.1875   | 37.1875   | 37.1875   | 39.375             |
| 1104 | 1097 West Monr | 36   | 0     | 97.999970 | 97.999970 | 100.72219 | 103.4444           |
| 1105 | 1098 Hastings  | 17   | 0     | 47.222239 | 47.222239 | 47.222239 | 50.00002           |
| 1106 | 1099 Hastings  | 93   | 0     | 258.2234  | 263.77661 | 269.3298  | 274.883            |
| 1107 | 1100 Sullivan  | 24   | 0     | 54.000002 | 54.000002 | 54.000002 | 56.25              |
| 1108 | 1101 Sullivan  | 21   | 0     | 61.894719 | 61.894719 | 61.894719 | 64.84209           |
| 1109 | 8001 Geddes    | 0    | 0     | 0         | 0         | 0         | 0                  |
| 1110 | 8002 Syracuse  | 0    | 0     | 0         | 0         | 0         | 0                  |
| 1111 | 8003 Onondaga  | 0    | 571   | 571       | 733       | 858       | 984                |
| 1112 | 8004 Onondaga  | 0    | 0     | 0         | 0         | 0         | 0                  |
| 1113 | 8005 Syracuse  | 0    | 0     | 0         | 7         | 13        | 20                 |
| 1114 | 8006 Syracuse  | 0    | 2507  | 2507      | 2542      | 2569      | 2596               |
| 1115 | 8007 Syracuse  | 0    | 0     | 0         | 0         | 0         | 0                  |
| 1116 | 8008 Syracuse  | 0    | 0     | 0         | 0         | 0         | 0                  |
| 1117 | 8009 Syracuse  | 0    | 0     | 0         | 0         | 0         | 0                  |



| TAZ  | Town_City | HH17     | HH_GQ | pop17 | pop30 | pop40 | pop50 |
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| 1118 | 8010      | Dewitt   | 5     | 1284  | 1289  | 1287  | 1286  |
| 1119 | 8011      | Syracuse | 0     | 0     | 0     | 29    | 51    |
| 1120 | 8012      | Syracuse | 0     | 2766  | 2766  | 2879  | 2966  |
| 1121 | 8013      | Syracuse | 0     | 0     | 0     | 0     | 0     |
| 1122 | 8014      | Syracuse | 0     | 0     | 0     | 0     | 0     |
| 1123 | 8015      | Syracuse | 0     | 0     | 0     | 0     | 0     |
| 1124 | 8016      | Dewitt   | 0     | 0     | 0     | 0     | 0     |



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| Town_City   | pop17     | pop30     | pop40     | pop50              |
|-------------|-----------|-----------|-----------|--------------------|
| Camillus    | 23304.372 | 24048.203 | 24658.964 | 25285.15           |
| Cicero      | 30440.041 | 31360.938 | 32118.243 | 32921.7            |
| Clay        | 57527.51  | 59385.635 | 60897.73  | 62468.68           |
| Dewitt      | 24453.864 | 24713.78  | 24950.51  | 25220.578866570006 |
| Elbridge    | 5584.8204 | 5701.1808 | 5796.4009 | 5910.505           |
| Fabius      | 1830.0616 | 1870.226  | 1907.883  | 1955.5831032400001 |
| Geddes      | 16586.096 | 16553.29  | 16541.327 | 16551.85           |
| Granby      | 102       | 104.3181  | 106.63632 | 108.95450700000002 |
| Hastings    | 9487.7639 | 9754.1466 | 10017.07  | 10340.646692220003 |
| Lafayette   | 4702.1911 | 4905.3861 | 5080.3986 | 5270.282           |
| Lysander    | 22226.548 | 23763.446 | 24985.608 | 26243.061837200003 |
| Manlius     | 31392.21  | 32247.331 | 32939.201 | 33672.599730719994 |
| Marcellus   | 5923.753  | 6253.6243 | 6527.3171 | 6825.232650789999  |
| Onondaga    | 21517.91  | 22446.22  | 23208.508 | 24012.11966344001  |
| Onondaga    | 436.00052 | 436.00052 | 436.00052 | 436.00052592000014 |
| Otisco      | 2436.151  | 2458.828  | 2489.072  | 2524.3519391100003 |
| Pompey      | 6739.6081 | 7005.1758 | 7229.8819 | 7475.052           |
| Salina      | 32130.37  | 32216.11  | 32317.21  | 32460.87           |
| Schroeppe   | 8011.094  | 8157.1718 | 8310.5241 | 8518.396390320004  |
| Skaneateles | 6960.4554 | 7053.0872 | 7129.323  | 7219.124           |
| Spafford    | 1720.6348 | 1731.0027 | 1741.1347 | 1756.0281314400002 |
| Sullivan    | 14825.292 | 15172.01  | 15503.534 | 15904.532189170004 |
| Syracuse    | 136128.26 | 135666.8  | 135505.74 | 135572.4           |
| Tully       | 2616.3918 | 2693.769  | 2763.68   | 2841.0708987999997 |
| Van Buren   | 13124.144 | 13610.74  | 14023.77  | 14463.63           |
| West Monr   | 3555.1572 | 3607.5981 | 3676.9825 | 3773.473184900001  |





## Department of Transportation

KATHY HOCHUL  
Governor

MARIE THERESE DOMINGUEZ  
Commissioner

DAVID P. SMITH, P.E.  
Regional Director

January 13, 2023

Mr. Gordon Stansbury P.E., PTOE  
GTS Consulting  
1396 White Bridge Road  
Chittenango, NY 13037

Dear Mr. Stansbury:

RE: PROPOSED LAKESHORE VILLAGE  
DEVELOPMENT TRAFFIC IMPACT STUDY  
TOWN OF CICERO, ONONDAGA COUNTY

The New York State Department of Transportation (NYSDOT) has completed its review of the July 2022 Traffic Impact Study (TIS) prepared by GTS Consulting for the subject project. Please see our responses to the proposed mitigation below.

### Route 31 @ I-81 NB/Pardee Road

#### Proposed mitigation:

- Restripe the northbound through lane to allow shared through and right turn movements.
  - **Disagree:** This could create a safety concern by giving motorists the chance to turn right on red from the middle lane, or it may show false capacity improvement as motorist would still utilize the right most lane and avoid being in the middle lane because they can't attempt to turn on red from the middle lane.

#### Recommendation:

- Extend the northbound right turn only lane to 350'.
- Widening to a point 400' from the stop bar to allow for the opening to two lanes (thru and left) in advance, to reduce the chance of blocking a lane by queues on another lane on this approach.

### Route 31 @ Lakeshore Road and Lakeshore Road Spur

#### Proposed mitigation:

- Install a 2-phase traffic signal with protected permitted eastbound left turn phasing and overlap southbound right turn phasing.
- Restrict the Lakeshore Road approach to NYS Route 31 to right turn only movements.

**Disagree:** After including the existing signal at Route 31 @ Lakeshore Road Spur, the traffic simulation results show significant queue lengths and delays. The results shown from Synchro analysis under the TIS alternative can be deceiving as each intersection is evaluated independently.



Recommendation:

- Install a new traffic signal at Route 31 @ Lakeshore Road and replace the existing signal at Lakeshore Road Spur. Both signals to be controlled by one controller.
- Convert the Lakeshore Road southbound approach to a one-way, two-lane segment between Route 31 and the spur to be dual right.
- Physically restrict turning left from Route 31 into Lakeshore Road by a narrow island that extends from the easterly edge of Saporì Restaurant driveway to the Lakeshore Spur intersection.
- Convert the Two-Way-Left-Turn-Lane (TWLTL) on Route 31 between Lakeshore Road and Lakeshore Road Spur to an exclusive left turn lane in the EB direction, to add storage to the existing EB left turn lane at the Lakeshore Road intersection.
- Widen the Lakeshore Road Spur NB Lane to become a free right turn lane and a short, left turn storage (stop controlled).
- Widen Route 31 WB between Lakeshore Road and to a point approximately 275' east of the Lakeshore Road Spur to add an additional lane for added capacity.
- Construct a short south-westbound left turn bay for traffic turning left into the spur.

Route 31 @ South Bay Road

Proposed Mitigation:

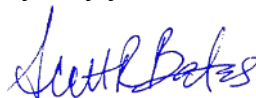
- Construct a 150-foot exclusive northbound right turn lane on South Bay Road.
- Optimize the signal operations periodically.
  - **Agree**

Additional Comments

- NYSDOT will optimize the traffic signal timing for the network based on field condition post build.
- The required mitigation must be completed in the initial development phase.
- Any property acquisition required to mitigate the proposed development is the sole responsibility of the developer.
- Future roadway improvements by others, i.e. Micron, may overlap or conflict with the recommended mitigation.

Any work within the state Right-of-Way (ROW) will require coordination with the NYSDOT to obtain a highway work permit. The developer should continue to coordinate with the regional Highway Work Permit Group. Any questions regarding the permit process or TIS review can be directed to Jeff Deep, Acting Regional Permit Engineer, at [Jeffrey.Deep@dot.ny.gov](mailto:Jeffrey.Deep@dot.ny.gov) or (315) 428-3233.

Very truly yours,



Scott R. Bates, P.E., PTOE  
Regional Traffic Engineer



File: 31.18-31  
Onondaga County  
Town of Cicero  
O:\Traffic\TRAFFIC\TESCommon\WPDOCS\PERMITS\HWP-Projects\3-3  
Onondaga East\Lakeshore Villages\TIS\Lakeshore Villages TIS Response Letter

January 13, 2023

Mr. Gordon Stansbury P.E., PTOE  
GTS Consulting  
1396 White Bridge Road  
Chittenango, NY 13037

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DEVELOPMENT TRAFFIC IMPACT STUDY  
TOWN OF CICERO, ONONDAGA COUNTY

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- Widen the Lakeshore Road Spur NB Lane to become a free right turn lane and a short, left turn storage (stop controlled).
- Widen Route 31 WB between Lakeshore Road and to a point approximately 275' east of the Lakeshore Road Spur to add an additional lane for added capacity.
- Construct a short south-westbound left turn bay for traffic turning left into the spur.

Route 31 @ South Bay Road

Proposed Mitigation:

- Construct a 150-foot exclusive northbound right turn lane on South Bay Road.
- Optimize the signal operations periodically.
  - **Agree**

Additional Comments

- NYSDOT will optimize the traffic signal timing for the network based on field condition post build.
- The required mitigation must be completed in the initial development phase.
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Very truly yours,

**Original signed by  
Scott R. Bates, P.E., PTOE**

Scott R. Bates, P.E., PTOE  
Regional Traffic Engineer



SRB:JAD:lmn

bc: M. Tompkins, Onondaga East Residency  
J. Deep, Traffic Safety & Mobility Group



## Proposed Lakeshore Village Development Lakeshore Road, Cicero, NY

The site is located at 6777 Lakeshore Road in Cicero NY and includes the property associated with the existing Lakeshore Yacht & Country Club on both the north and south sides of Lakeshore Road. The following provides a breakdown of the anticipated land uses within the development:

| <i>North Side Development</i> |                              | <i>South Side Development</i> |
|-------------------------------|------------------------------|-------------------------------|
| 266 Apartments                | 36,000 SF Clubhouse          | 123 Apartments                |
| 20,000 SF Office Space        | 120 Room Hotel               | 163 Single Family Homes       |
| 20,000 SF Retail Space        | 500 person Conference Center | 20 Townhouses                 |
| 26,000 SF – Restaurant Space  | 116 Berth Marina             |                               |
| 30 Condominiums               |                              |                               |

Access to the development will be to/from Lakeshore Road, to the east of South Bay Road.

# TRAFFIC IMPACT STUDY

Prepared in Accordance With  
Chapter 5 of the NYSDOT Highway Design Manual (HDM)

Prepared By:

**G  
T  
S** Consulting  
1396 White Bridge Road  
Chittenango, NY 13037

July 2022



**Note:** It is a violation of law for any person, unless they are acting under the direction of a licensed professional engineer, architect, landscape architect, or land surveyor, to alter an item in any way. If an item bearing the stamp of a licensed professional is altered, the altering engineer, architect, landscape architect, or land surveyor shall stamp the document and include the notation "altered by" followed by their signature, the date of such alteration, and a specific description of the alteration.



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## 1.0 Summary of Traffic Impacts

- A. A capacity analysis was performed per the NYSDOT Highway Design Manual Chapter 5. (Refer to Section 3 of this report):

The capacity analysis of the build condition with the recommended mitigation and traffic signal/timing optimization indicates that the proposed development will have no significant impacts on traffic operations in the study area.

The following mitigation measures are recommended:

- Lakeshore Road @ Site Access
  - Install a two way center left turn lane between the middle and eastern full access driveways to provide 100 foot eastbound and westbound left turn lane at both locations.
  - Review traffic operations periodically as the development is completed to determine if a traffic signal is warranted at the eastern access location.
- NYS Route 31 @ South Bay Road
  - Construct a 150 foot northbound right turn lane on South Bay Road.
  - Optimize the signal operations periodically.
- NYS Route 31 @ Lakeshore Road
  - Install a 2-phase traffic signal with protected permitted eastbound left turn phasing and overlap southbound right turn phasing.
  - Restrict the Lakeshore Road approach to NYS Route 31 to right turn only movements.
- NYS Route 31 @ I-81 Northbound Offramp
  - Restripe the northbound through lane to allow shared through and right turn movements.
- NYS Route 31 @ Route 11, I-81 and Lakeshore Road
  - Optimize traffic signal operations and coordination parameters periodically.

With the proposed improvements noted above, traffic movements are generally projected to operate at levels consistent with the background condition at both the signalized and unsignalized intersections in the study area.

There is notable existing traffic congestion along NYS Route 31 between Lakeshore Road and NYS Route 11 under the existing conditions, with limited options to improve operations outside of major reconstruction of the I-81 interchange. The proposed mitigation, along with signal timing optimization, will offset the additional traffic generated by the proposed development without any significant impacts to existing traffic operations.

There are some potentially longer delays exiting the proposed development onto Lakeshore Road under the full build condition, even with the recommended widening to include a center left turn lane. Given that the proposed development will be completed over a number of years, it is recommended that operations be reviewed periodically at the site access to determine if a traffic signal or other mitigation is necessary to accommodate the site generated traffic.

- B. A crash analysis was performed per Highway Design Manual Chapter 5 on NYS Route 31 from NYS Route 11 to Lakeshore Road (east), on Lakeshore Road between both ends at NYS Route 31, and on South Bay Road between Thompson Road and Lakeshore Road. Refer to Section 4 of this report.



## 2.0 Operational Data – Existing Conditions

### 2.1 Travel Speeds

The posted speed limit on Lakeshore Road in the study area is 35 mph passing the site. 50 spot speed measurements were collected in each direction passing the site to determine the average and 85<sup>th</sup> percentile operating speeds. The posted speed limits and 85<sup>th</sup> percentile speeds, determined based on NYSDOT Highway Design Manual Chapter 5, Section 5.2, are shown in the table below.

| <b><i>Exhibit 1<br/>Speed Data</i></b> |                        |                            |                                               |
|----------------------------------------|------------------------|----------------------------|-----------------------------------------------|
| <b><i>Street Name</i></b>              | <b><i>Location</i></b> | <b><i>Posted Speed</i></b> | <b><i>Operating Speed<br/>Spot Speeds</i></b> |
| <i>Lakeshore Road</i>                  | <i>Passing Site</i>    | <i>35 mph</i>              | <i>EB – 44 mph<br/>WB – 46 mph</i>            |

### 2.2 Traffic Gap

Gap data was collected to assess the ability for vehicles to turn in and out of the proposed driveways on Lakeshore Road. In order for a vehicle to turn right out of the northern driveways, or left into the northern driveways, the vehicle only requires a gap in the westbound direction on Lakeshore Road. In order for a vehicle to turn right out of the southern driveways, or left into the southern driveways, the vehicle only requires a gap in the eastbound direction on Lakeshore Road. A vehicle requires a gap in traffic in both directions at the same time to turn left out of the northern and southern driveways onto Lakeshore Road. These gaps in traffic were observed and timed on Lakeshore Road during the weekday morning, weekday evening, and Saturday traffic count periods. The gaps were then converted to a number of vehicles that could turn left or right out of the site driveways during each gap and then totaled for the peak hour. For example, one vehicle can turn from a driveway with a 6-9 second gap in traffic, two can turn with a 10-13 second gap, 3 with a 14-17 second gap, 4 with an 18-19 second gap, etc.

Based on the gap data collected, there are sufficient gaps in traffic to accommodate approximately 600 vehicles turning right out of both the northern and southern driveways during the peak hours. There are sufficient gaps on Lakeshore Road to accommodate approximately 500-600 vehicles turning left out of the driveways during each peak hour. There are no concerns with existing available gaps in traffic.

### 2.3 Driveway Sight Distance

Sight lines looking east/west along Lakeshore Road from each of the proposed site driveways were collected for comparison to design standards in order to confirm that adequate sight lines are available for safe ingress and egress from the site.

The following table provides a summary of the recommended sight distances along Lakeshore Road from the AASHTO A Policy on Design of Highways and Streets as well as the available sight distances based on field measurements. Operating speeds of 45 mph on Lakeshore Road were used in the review.



| Sight Distance Summary                                                 |                 |                               |                                   |                          |
|------------------------------------------------------------------------|-----------------|-------------------------------|-----------------------------------|--------------------------|
| Location                                                               | Operating Speed | Direction                     | AASHTO Recommended Sight Distance | Available Sight Distance |
| Lakeshore Road @<br>Western Site Access (N. Side)<br>Turning Right Out | 45 mph          | Looking Left                  | 430 feet                          | 1,300 feet               |
| Lakeshore Road @<br>Western Site Access (N. Side)<br>Turning Left Out  | 45 mph          | Looking Left<br>Looking Right | 500 feet<br>500 feet              | 1,300 feet<br>525 feet   |
| Lakeshore Road @<br>Middle Site Access (N. Side)<br>Turning Right Out  | 45 mph          | Looking Left                  | 430 feet                          | 850 feet                 |
| Lakeshore Road @<br>Middle Site Access (N. Side)<br>Turning Left Out   | 45 mph          | Looking Left<br>Looking Right | 500 feet<br>500 feet              | 850 feet<br>660 feet     |
| Lakeshore Road @<br>Middle Site Access (S. Side)<br>Turning Right Out  | 45 mph          | Looking Left                  | 430 feet                          | 860 feet                 |
| Lakeshore Road @<br>Middle Site Access (S. Side)<br>Turning Left Out   | 45 mph          | Looking Left<br>Looking Right | 500 feet<br>500 feet              | 860 feet<br>870 feet     |
| Lakeshore Road @<br>Eastern Site Access (N. Side)<br>Turning Right Out | 45 mph          | Looking Left                  | 430 feet                          | 700 feet                 |
| Lakeshore Road @<br>Eastern Site Access (N. Side)<br>Turning Left Out  | 45 mph          | Looking Left<br>Looking Right | 500 feet<br>500 feet              | 700 feet<br>110 feet     |
| Lakeshore Road @<br>Eastern Site Access (S. Side)<br>Turning Right Out | 45 mph          | Looking Left                  | 430 feet                          | 1,100 feet               |
| Lakeshore Road @<br>Eastern Site Access (N. Side)<br>Turning Left Out  | 45 mph          | Looking Left<br>Looking Right | 500 feet<br>500 feet              | 1,100 feet<br>500 feet   |

There is more than adequate sight distance looking east/west along Lakeshore Road from each of the proposed driveway locations. There are no concerns with sight distances associated with safety for ingress and egress from the site driveway.

### 3.0 Capacity Analysis

#### Capacity Analysis Overview

Capacity analyses performed in this report are consistent with the most recent version of the Highway Capacity Manual (HCM). The software used to perform this analysis is Synchro10.

The HCM quantifies the quality of traffic flow in terms of levels of service (LOS). There are six levels of service, with LOS A indicating very low levels of delays and LOS F indicating high levels of delays associated with congestion. These represent a qualitative measure of operational conditions within a traffic stream, and the perception of conditions by motorists and/or passengers. Levels of service and capacity for signalized intersections are calculated for each lane group (a lane group may be one or more movements), each intersection approach, and the intersection as a whole. The intersection level of service is merely a weighted average of the individual approaches and may not be considered a valid



measure of the quality or acceptability of an intersection design since it can conceal poor operating conditions on individual approaches.

Levels of service at unsignalized intersections are only calculated for minor movements since the through movement on the major street is not affected by intersection traffic control. The level of service for signalized intersections and unsignalized intersections can be compared.

The corresponding level of service represents the congestion of the roadway.

#### LOS for Signalized Intersection

| Control Delay (s/veh) | LOS by Volume-to-Capacity Ratio (v/c) |          |
|-----------------------|---------------------------------------|----------|
|                       | v/c ≤1.0                              | v/c >1.0 |
| ≤10                   | A                                     | F        |
| >10-20                | B                                     | F        |
| >20-35                | C                                     | F        |
| >35-55                | D                                     | F        |
| >55-80                | E                                     | F        |
| >80                   | F                                     | F        |

HCM 2010, Exhibit 18-4, p. 18-6

#### LOS for Non-Signalized Intersections

| Control Delay (s/veh) | LOS by Volume-to-Capacity Ratio (v/c) <sup>a, b</sup> |          |
|-----------------------|-------------------------------------------------------|----------|
|                       | v/c ≤1.0                                              | v/c >1.0 |
| ≤10                   | A                                                     | F        |
| >10-15                | B                                                     | F        |
| >15-25                | C                                                     | F        |
| >25-35                | D                                                     | F        |
| >35-50                | E                                                     | F        |
| >50                   | F                                                     | F        |

**NOTE:** <sup>a, b</sup> For approaches and intersection-wide assessment, LOS is defined solely by control delay.

**2-way stop control - HCM 2010, Exhibit 19-1, p. 19-2**

### 3.1 Existing Volumes

2019 AADT traffic volumes on Route 31, Lakeshore Road and South Bay Road were obtained from the NYSDOT Traffic Data Viewer. New traffic turning movement counts were collected at the following 11 study area intersections on two weekdays and one Saturday between May 11<sup>th</sup> and May 21<sup>st</sup>, 2022.

- NYS Route 31 @ NYS Route 11
- NYS Route 31 @ I-81 SB Ramps
- NYS Route 31 @ I-81 NB Offramp / Pardee Road
- NYS Route 31 @ Lakeshore Road (West)
- NYS Route 31 @ South Bay Road
- NYS Route 31 @ Cicero Center Road
- NYS Route 31 @ Lakeshore Road (East)
- Lake Shore Road @ Mudd Mill Road
- Lake Shore Road @ South Bay Road
- Lake Shore Road @ Cicero Center Road / Van Antwerp Drive
- South Bay Road @ Thompson Road

The traffic counts were collected during the weekday morning (7-9am), weekday evening (4-6pm) peak travel periods on two separate days, and during the Saturday midday (11am-1pm) peak travel period on one Saturday to ensure that actual peak hours of the adjacent streets were captured. The traffic counts included separate heavy vehicle counts per direction and pedestrians. There was minor pedestrian



activity during the traffic count periods. Based on the traffic counts collected, the peak hours were identified as follows:

- Morning peak hour - 7:15-8:15am
- Evening peak hour - 4:30-5:30pm
- Saturday peak hour – 11:00am-12:00pm

The two weekday counts at each study area intersection were averaged. The count averages and traffic count data has been attached.

The 2022 existing traffic volumes collected in May were compared to historical counts taken from the NYSDOT Traffic Data Viewer Website to identify any adjustments to account for seasonal variations or any lingering impacts from the Covid pandemic. Specifically, the evening peak hour traffic volumes on the following roadway segments were compared to the AADT design hour and directional design traffic volumes:

- NYS Route 31 – NYS Route 11 to I-81
- NYS Route 31 – South Bay Road to Lakeshore Road (East)
- South Bay Road – Thompson Road to NYS Route 31
- I-81 Northbound Offramp at NYS Route 31
- I-81 Southbound Offramp at NYS Route 31
- I-81 SB Onramp at NYS Route 31

Based on the comparison of the total 2022 traffic volumes at these six locations to the total historical traffic volumes at these six locations, the 2022 traffic volumes were found to be 15% lower during the evening peak hour. In order to account for any reductions in traffic due to seasonal variations or the COVID pandemic, all of the 2022 traffic counts were multiplied by a factor of 1.15 for the weekday morning, weekday evening and Saturday midday peak hours.

AADT traffic volumes on the study area roadways based on the Traffic Data Viewer and a conservatively high 0.5% annual growth rate compared to actual historic growth trends are shown in the table below.

| <b>Existing Traffic Volumes for Study Area (No Build)</b> |                            |            |                       |            |                          |            |                          |            |
|-----------------------------------------------------------|----------------------------|------------|-----------------------|------------|--------------------------|------------|--------------------------|------------|
| <b>STREET NAME</b>                                        | <b>EXISTING<br/>(2022)</b> |            | <b>ETC<br/>(2032)</b> |            | <b>ETC+20<br/>(2052)</b> |            | <b>ETC+30<br/>(2062)</b> |            |
|                                                           | <i>AADT</i>                | <i>DHV</i> | <i>AADT</i>           | <i>DHV</i> | <i>AADT</i>              | <i>DHV</i> | <i>AADT</i>              | <i>DHV</i> |
| <i>Route 31<br/>Between Route 11 &amp; I-81</i>           | 34,901                     | 2,999      | 36,620                | 3,147      | 40,058                   | 3,443      | 41,778                   | 3,590      |
| <i>Route 31<br/>Between I-81 and South Bay</i>            | 12,971                     | 1,122      | 13,610                | 1,177      | 14,887                   | 1,287      | 15,526                   | 1,343      |
| <i>Route 31<br/>Between South Bay &amp; Lakeshore</i>     | 8,848                      | 809        | 9,283                 | 849        | 10,155                   | 929        | 10,591                   | 968        |
| <i>Lakeshore Road<br/>Between Weaver &amp; Maple</i>      | 4,320                      | 431        | 4,533                 | 453        | 4,958                    | 495        | 5,171                    | 516        |
| <i>South Bay Road<br/>Between Thompson &amp; Rte 31</i>   | 6,939                      | 754        | 7,280                 | 791        | 7,964                    | 866        | 8,306                    | 903        |

Lakeshore Road carries approximately 170 vehicles eastbound/153 vehicles westbound passing the site during the morning peak hour, 284 vehicles eastbound/212 vehicles westbound passing the site during the evening peak hour, and 259 vehicles eastbound/219 vehicles westbound passing the site during the Saturday peak hour.



The 2022 existing May traffic volumes are shown in Figures 1-3 for the three peak hours. The adjusted existing 2022 traffic volumes are shown in Figures 4-6.

### 3.2 Growth Rates

The proposed development is assumed to be completed over approximately 10 years, therefore 2032 was used as the design year for this study. In order to fully understand the impacts of the development on the adjacent roadway system, analysis of the operations immediately before the project opening must first be completed.

Historical traffic volumes along NYS Route 31 between the I-81 interchange and South Bay Road, along Lakeshore Road between Weaver Road and Maple Road, and along South Bay Road between Thompson Road and NYS Route 31, were taken from the NYSDOT Traffic Data Viewer website and reviewed in order to understand historical growth trends in the area. Long term growth rates in the area have been -0.2% per year on NYS Route 31 between 2009 and 2019, +3.7% per year on Lakeshore Road between 2010 and 2019, and -0.9% per year on South Bay Road between 2010 and 2019. It is noted that there was a significant jump in traffic on Lakeshore Road between 2010 and 2016 with negative growth between 2016 and 2019.

A positive value of +0.5% per year was chosen to grow the existing traffic volumes to the 2032 design year to maintain a conservative analysis of traffic operations in the area. The 2032 base traffic volumes with 0.5% growth per year (5% total) are shown in Figures 7-9.

In addition to unknown growth, specific approved trips were also included in the background traffic volumes. The Town of Cicero was contacted and indicated that the Lakeshore Marina Apartments, the Horner Farm Subdivision and the Lyons Runne Section 3 developments needed to be included in the background projections. Approved trips generated during the morning and the evening peak hours were taken from the Lakeshore Marina traffic impact study (GTS Consulting, March 2018), The Horner Farm traffic impact study and updated traffic review (GTS Consulting, January 2021 and September 2021) and the Lyons Runne traffic impact study (GTS Consulting, January 2017). The trips generated during the Saturday peak hour for each development were estimated using the ITE Trip Generation, 11<sup>th</sup> Edition. All trips generated were extrapolated through the study area based on existing traffic distributions during each peak hour. The approved trips generated by the Lakeshore Marina development are shown in Figure 10-12, the approved trips generated by the Horner Farm development are shown in Figures 13-15, and the approved trips generated by the Lyons Runne Section 3 development are shown in Figures 16-18.

The Town of Cicero also noted two minor approved developments, the Royal Car Wash on NYS Route 31 at NYS Route 11, and an auto repair shop on Route 31 @ Lakeshore Road. Given the minor trip generation characteristics for these two developments, additional traffic generated is assumed to be captured within the general background growth that was applied to the existing traffic volumes.

The 2032 background traffic volumes with 5% growth and the approved developments are shown in Figures 19-21.

### 3.3 Projected Trip Generation & Distribution

The proposed development includes:

#### North Side Development

- 266 Apartments (160 units in Mixed Use Buildings A-E, 106 unit in Residential Buildings D-E)
- 20,000 SF Office Space (Mixed Use Buildings A-E)
- 20,000 SF Retail Space (Mixed Use Buildings A-E)



- 26,000 SF – Restaurant Space (20,000 SF in Mixed Use Buildings A-E, 6,000 in Restaurant E)
- 30 Condominiums in the Main Building
- 36,000 SF Clubhouse in the Main Building
- 120 Room Hotel with 500 person Conference Center – Main Building
- 116 Berth Marina

#### South Side Development

- 123 Apartments (Residential Buildings A-C)
- 163 Single Family Homes
- 20 Townhouses

Trips generated by the proposed development were estimated using the ITE Trip Generation, 11<sup>th</sup> Edition, which is the industry accepted standard for estimating traffic generated by new developments.

The following Land Uses were used:

- Land Use 221 – Multifamily Housing (Mid-Rise) – Used for apartments and condominiums
- Land Use 710 – General Office Building – Used for office space
- Land Use 822 – Strip Retail Plaza (<40,000 SF) – Used for retail space
- Land Use 932 – High-Turnover (Sit-Down) Restaurant – Used for restaurant space
- Land Use 310 – Hotel – Used for Hotel & Conference Center
- Land Use 420 – Marina – Used for marina
- Land Use 210 – Single Family Detached Housing – Used for single family and estate lots
- Land Use 215 – Single Family Attached Housing – Used for townhouses

Individual trips were not estimated for the conference center as this use is specifically included within the hotel land use. Individual trips were also not estimated for the club house as this is an amenity for the residential land uses and not an independent traffic generator.

A portion of the traffic generation within the north side development will be internal trips that do not generate new vehicles on the adjacent roadways. For example, residents or people at the hotel/conference center will visit the retail or restaurant uses on the site. Likewise people that live on the site may work in the office spaces, or use the marina. A 15% multi-use reduction was applied to the north side trip generation estimate to account for these internal capture trips.

A portion of the retail and restaurant traffic generated by the development will be drawn from traffic already passing the site on Lakeshore Road and is referred to as pass-by trips. Pass-by trips are vehicles that are already traveling through the study area but will now stop at the development on their way to another destination, such as stopping on their way to or from work. Based on data from the ITE Trip Generation, the average pass-by trip percentage for Land Use 932 is 43% during the evening peak hour, and for land use 820 is 34% during the evening peak hour and 26% during the Saturday peak hour. A 10% pass-by trip percentage was assumed for the morning peak hour and a 30% pass-by trip percentage was assumed for evening/Saturday peak hours for the retail/restaurant uses. The credit was applied after the multi-use credit to avoid compounding credits.

The following tables summarize the trip generation estimate for the proposed Lakeshore Village development on Lakeshore Road in the Town of Cicero.



## Trip Generation Summary – North Side Development

|                                         | Morning<br>Peak Hour |            | Evening<br>Peak Hour |            | Saturday<br>Peak Hour |            |
|-----------------------------------------|----------------------|------------|----------------------|------------|-----------------------|------------|
|                                         | Entering             | Exiting    | Entering             | Exiting    | Entering              | Exiting    |
| Apartments / Condominiums – 306 units   | 25                   | 85         | 70                   | 45         | 58                    | 57         |
| Office – 20,000 SF                      | 26                   | 4          | 5                    | 24         | 6                     | 5          |
| Retail – 20,000 SF                      | 28                   | 19         | 66                   | 66         | 67                    | 64         |
| Restaurants – 26,000 SF                 | 137                  | 112        | 143                  | 92         | 148                   | 143        |
| Hotel – 120 rooms                       | 31                   | 24         | 36                   | 35         | 48                    | 38         |
| Marina – 116 berths                     | 3                    | 5          | 14                   | 10         | 11                    | 15         |
| <b>Total Individual Trips Generated</b> | <b>250</b>           | <b>249</b> | <b>334</b>           | <b>272</b> | <b>338</b>            | <b>322</b> |
| <i>Multi-Use Credit – 15%</i>           | <i>-38</i>           | <i>-37</i> | <i>-50</i>           | <i>-41</i> | <i>-51</i>            | <i>-48</i> |
| <b>Total Trips Generated</b>            | <b>212</b>           | <b>212</b> | <b>284</b>           | <b>231</b> | <b>287</b>            | <b>274</b> |
| <b>Commercial Pass-by Trips</b>         |                      |            |                      |            |                       |            |
| <i>AM 10%, PM/Sat – 30%</i>             | <i>-12</i>           | <i>-12</i> | <i>-47</i>           | <i>-47</i> | <i>-54</i>            | <i>-54</i> |
| <b>Total New Trips Generated</b>        | <b>200</b>           | <b>200</b> | <b>237</b>           | <b>184</b> | <b>233</b>            | <b>221</b> |

## Trip Generation Summary – South Side Development

|                                 | Morning<br>Peak Hour |            | Evening<br>Peak Hour |           | Saturday<br>Peak Hour |           |
|---------------------------------|----------------------|------------|----------------------|-----------|-----------------------|-----------|
|                                 | Entering             | Exiting    | Entering             | Exiting   | Entering              | Exiting   |
| Apartments – 123 Units          | 10                   | 36         | 29                   | 19        | 24                    | 24        |
| Single Family Homes – 163 Units | 30                   | 84         | 96                   | 57        | 81                    | 69        |
| Townhouses – 20 Units           | 3                    | 7          | 6                    | 5         | 5                     | 6         |
| <b>Total Trips Generated</b>    | <b>43</b>            | <b>127</b> | <b>131</b>           | <b>81</b> | <b>110</b>            | <b>99</b> |

Many people expect that residential land uses will generate an average of 2 trips per unit during peak hours. The trip generation rates for standard residential land uses are generally less than 1 trip per unit for a number of reasons. The primary reason is that people work different times, some may leave for work at 6:30 in the morning while others may leave at 7:30 or 8:30. Subsequently, the arrival patterns home in the evening will also be staggered over multiple hours. Some people work evenings while others may stay at home or work from home. The rates contained in the ITE Trip Generation have been verified and provide an accurate representation of what may be expected for this development during the peak hours of the adjacent streets.

Overall, the entire development is expected to generate approximately 255 trips entering/349 trips exiting during the morning peak hour, 415 trips entering/312 trips exiting during the evening peak hour, and 397 trips entering/373 trips exiting during the Saturday peak hour.

The Syracuse Metropolitan Transportation Council (SMTTC) completed travel demand modeling and provided projected traffic volumes increases on select roadway links within a 6 mile radius of the proposed development. These volume increases were reviewed to develop overall distribution percentages traveling to/from the proposed development. The following provides a summary of the projected trip distribution based on the results of the SMTTC modeling:

- 32% to/from I-81 south of Route 31
- 25% to/from Thompson Road via South Bay Road
- 15% to/from South Bay Road south of Thompson Road
- 9% to/from the east on Lakeshore Road
- 7% to/from the west on Route 31
- 5% to/from the north on Mudd Mill Road



- 3% to/from the south on Route 11 via Route 31
- 2% to/from I-81 north of Route 31
- 2% to/from the southeast on Cicero Center Road

Overall, 89% of the traffic generated is projected to travel to/from the west of the site on Lakeshore Road or South Bay Road, and 11% is projected to travel to/from the east of the site on Lakeshore Road or Cicero Center Road. It is noted that the SMTD demand model projected that nearly all of the traffic traveling to/from I-81 or points west would use Lakeshore Road to access Route 31 versus using South Bay Road. Given the existing delays at the Lakeshore Road/Route 31 intersection, this distribution was adjusted to assume that one third of this traffic would use South Bay Road and two thirds would use Lakeshore Road.

The proposed arrival/departure trip distributions for the north and south side portions of the development are shown in Figures 22 and 23 respectively. The trips generated were assigned to the study area intersections based on proposed distributions as shown in Figures 24-25 for the morning peak hour, Figures 26-27 for the evening peak hour, and Figures 28-29 for the Saturday peak hour. The resultant full build traffic volumes expected when the development is complete are shown in Figures 30-32.

### 3.4 Internal Circulation, Parking, Deliveries

Traffic will circulate throughout the southern portion of the development via new roadways through the site. Each northern driveway will access a certain portion of the northern development with the eastern access serving the bulk of the northern development. There is no parking allowed on study area roadways and no on-street parking planned within the development.

### 3.5 Traffic Control Device Data

The signalized intersections of NYS Route 31 with NYS Route 11 (NYSDOT #3007), the I-81 southbound ramps (NYSDOT #3181) and the I-81 northbound ramp / Pardee Road (NYSDOT #3182) are part of a coordinated signal system with full actuation at each of the signalized intersections. The overall system operates at a 110 signal cycle length during the three peak hours, although the intersection of Route 11 with Route 31 operates at different cycle length during the evening and Saturday peak hours.

The signalized intersections of NYS Route 31 with South Bay Road (NYSDOT #3043), NYS Route 31 with Cicero Center Road (NYSDOT #3285) and South Bay Road with Thompson Road (OCDOT #33) are all fully actuated, uncoordinated intersections.

The unsignalized intersections in the study area (NYS Route 31 @ Lakeshore Road east and west, Lakeshore Road at Mudd Mill Road, and Lakeshore Road at Cicero Center Road / Van Antwerp Drive) are all side street stop sign controlled with free flow traffic operations on the main roadways.

### 3.6 Capacity Analysis for Existing No-Build Condition

Capacity analysis of the existing traffic operations was completed using Synchro10.

There is notable existing traffic congestion along NYS Route 31 between Lakeshore Road and NYS Route 11 under the existing conditions during all three peak hours reviewed. The following signalized traffic movements in the study area are noted to be operating at Levels of Service E or F:

- NYS Route 31 @ NYS Route 11
  - EB Through/Right – PM & Sat LOS E
  - WB Left – PM LOS E, Sat LOS F
  - NB Through – AM, PM & Sat – LOS E
- NYS Route 31 @ I-81 SB Ramps
  - EB Through/Right – AM LOS E



- WB Left – AM LOS F, PM LOS E
  - SB Left/Through – AM & Sat LOS E, PM LOS F
- NYS Route 31 @ I-81 NB Offramp / Pardee Road
  - Overall Intersection – PM LOS E
  - WB Through/Right – PM LOS F
  - NB Right – PM LOS F
- NYS Route 31 @ South Bay Road
  - Overall Intersection – PM LOS E
  - WB Left/Through/Right – Sat LOS F
  - NB Left/Through/Right – PM LOS F
- South Bay Road @ Thompson Road
  - EB Left – PM LOS E

The unsignalized intersections all have acceptable delays with Levels of Service C or better for all movements, with the exception of the Lakeshore Road westbound approach to NYS Route 31 which has failing level delays during all three peak hours.

The detailed Level of Service & queue summary, and capacity analysis printouts, have been attached.

### 3.7 Capacity Analysis for Background No-Build Condition

Capacity analysis of the background traffic operations was completed using Synchro10. Planned NYSDOT improvements at the NYS Route 31 / South Bay Road intersection, including left turn lanes on all four approaches with protected/permitted left turn signal phasing was included in the background conditions analysis.

The results of the analysis with the approved developments shows moderate increases in delay primarily at the signalized intersections in the study area. The following drops in Level of Service are noted:

- NYS Route 31 @ NYS Route 11
  - Overall Intersection – Sat LOS D to E
  - WB Left – PM LOS E to F
- NYS Route 31 @ I-81 SB Ramps
  - Overall Intersection – AM LOS D to E, PM LOS C to D
  - EB Through/Right – AM LOS E to F, PM LOS C to E, Sat LOS D to E
  - WB Left – PM LOS E to F
  - SB Left/Through – AM LOS E to F
- NYS Route 31 @ I-81 NB Offramp / Pardee Road
  - Overall Intersection – PM LOS E to F
  - EB Through – PM LOS D to E
- South Bay Road @ Thompson Road
  - EB Left – PM LOS E to F

All unsignalized movements continue to operate at acceptable Levels of Service with the exception of the Lakeshore westbound approach to NYS Route 31 during all three peak hours.

The detailed Level of Service & queue summary, and capacity analysis printouts, have been attached.



### 3.8 Capacity Analysis for Proposed Build Condition

Capacity analysis of the build traffic operations with no improvements was completed using Synchro10.

The following drops in Level of Service are noted at the signalized study area intersections:

- NYS Route 31 @ I-81 SB Ramps
  - Overall Intersection – PM & Sat LOS D to E
  - EB Through/Right – PM & Sat LOS E to F
  - WB Left – Sat LOS D to F
- NYS Route 31 @ I-81 NB Offramp / Pardee Road
  - Overall Intersection – Sat LOS C to E
  - EB Through – PM LOS E to F, Sat LOS C to D
  - WB Through/Right – AM LOS C to D, Sat LOS D to F
  - NB Right – AM LOS D to E
- NYS Route 31 @ South Bay Road
  - Overall Intersection – AM LOS C to D, PM & Sat LOS D to E
  - EB Through/Right – PM LOS D to E
  - WB Through/Right – Sat LOS C to D
  - NB Through/Right – PM LOS E to F
  - SB Through/Right – AM LOS D to F
- South Bay Road @ Thompson Road
  - EB Left – Sat LOS B to C
  - EB Through/Right – Sat LOS C to D
  - WB Left – AM LOS C to E, PM LOS B to C
  - WB Through/Right – AM LOS C to D
  - NB Left/Through – Sat LOS B to C
  - SB Left/Through – Sat LOS B to C

The following drops in Level of Service are noted at the unsignalized study area intersections:

- NYS Route 31 @ Lakeshore Road
  - EB Left – Sat LOS C to D
- Mudd Mill Road @ Lakeshore Road
  - SB Approach – AM LOS B to C, PM LOS C to E, Sat LOS C to D
- South Bay Road @ Lakeshore Road
  - NB Approach – AM LOS A to B, PM LOS B to D, Sat LOS B to C
- Cicero Center Road @ Lakeshore Road
  - NB Approach – Sat LOS B to C

The eastern site access on Lakeshore Road, northbound approach, is projected to operate at LOS E during the morning peak hour and LOS F during the evening and Saturday peak hours. The middle site access on Lakeshore Road, northbound approach, is projected to operate at LOS E during the evening and Saturday peak hours. The western driveway is projected to operate at LOS C or better during all three peak hours.

The detailed Level of Service & queue summary, and capacity analysis printouts, have been attached.



### 3.9 Mitigation Measures

The following mitigation measures are recommended:

- Lakeshore Road @ Site Access
  - Install a two way center left turn lane between the middle and eastern full access driveways to provide 100 foot eastbound and westbound left turn lane at both locations.
  - Review traffic operations periodically as the development is completed to determine if a traffic signal is warranted at the eastern access location.
- NYS Route 31 @ South Bay Road
  - Construct a 150 foot northbound right turn lane on South Bay Road.
  - Optimize the signal operations periodically.
- NYS Route 31 @ Lakeshore Road
  - Install a 2-phase traffic signal with protected permitted eastbound left turn phasing and overlap southbound right turn phasing.
  - Restrict the Lakeshore Road approach to NYS Route 31 to right turn only movements.
- NYS Route 31 @ I-81 Northbound Offramp
  - Restripe the northbound through lane to allow shared through and right turn movements.
- NYS Route 31 @ Route 11, I-81 and Lakeshore Road
  - Optimize traffic signal operations and coordination parameters periodically.

With the proposed improvements noted above, traffic movements are generally projected to operate at levels consistent with the background condition at both the signalized and unsignalized intersections in the study area.

There is notable existing traffic congestion along NYS Route 31 between Lakeshore Road and NYS Route 11 under the existing conditions, with limited options to improve operations outside of major reconstruction of the I-81 interchange. The proposed mitigation, along with signal timing optimization, will offset the additional traffic generated by the proposed development without any significant impacts to existing traffic operations.

There are some potentially longer delays exiting the proposed development onto Lakeshore Road under the full build condition, even with the recommended widening to include a center left turn lane. Given that the proposed development will be completed over a number of years, it is recommended that operations be reviewed periodically at the site access to determine if a traffic signal or other mitigation is necessary to accommodate the site generated traffic.

The detailed Level of Service & queue summary, and capacity analysis printouts, have been attached.

### 4.0 Crash Analysis

The purpose of this crash analysis is to identify safety problems by studying and quantifying accidents within and immediately adjacent to the driveway, and identifying abnormal patterns and clusters. An accident cluster is defined as an abnormal occurrence of similar accident types occurring at approximately the same location or involving the same geometric features. The severity of the accidents should also be considered. A history of accidents is an indication that further analysis is required to determine the cause(s) of the accident(s) and to identify what actions, if any, could be taken to mitigate the accidents.

A crash analysis was performed per Highway Design Manual Chapter 5 on NYS Route 31 from NYS Route 11 to Lakeshore Road (east), on Lakeshore Road between both ends at NYS Route 31, and on



South Bay Road between Thompson Road and Lakeshore Road.

### Existing Crash Data

An accident analysis was completed for the study area using history reports obtained for a three year period from January 2019 through December 2021. Over the three year period, there were 629 total accidents in the study area.

Fifty-Three (53) accidents occurred at the Route 11 / Caughdenoy Road intersection including 36 rearend accidents, 7 right angle accidents, 3 overtaking accidents, 2 backing accidents, 1 bicyclist accident, 1 right turn accident, 1 left turn accident, 1 head on accident, and 1 fixed object accident. The predominant accident type are rearend accidents which are indicative of the congestion at the intersection. The intersection accident rate is above the statewide average rate for similar facilities. The future cross connection between the site and the Wegmans property will reduce traffic queues and congestion on Route 11 at Caughdenoy Road, which should provide some reduction in accident frequency.

Seventy-seven (77) accidents occurred at the NYS Route 31 / NYS Route 11 intersection including 33 rearend accidents, 13 overtaking accidents, 12 left turn accidents, 10 right angle accidents, 4 sideswipe accidents, 2 right turn accidents, 1 head on accident, 1 backing accident and 1 pedestrian accident. The accident rate is above the statewide average for similar facilities.

Fifty-three (53) accidents occurred at the NYS Route 31 / I-81 northbound ramps / Pardee Road intersection including 21 rearend accidents, 12 right angle accidents, 9 overtaking accidents, 4 left turn accidents, 2 backing accidents, 1 sideswipe accident, 1 right turn accident, 1 bicyclist accident, 1 non-collision accident and 1 fixed object accident. The accident rate is above the statewide average for similar facilities.

Twenty-seven (27) accidents occurred at the NYS Route 31 / I-81 southbound ramps intersection including 12 rearend accidents, 7 right angle accidents, 5 left turn accidents, and 3 overtaking accidents. The accident rate is above the statewide average for similar facilities.

Thirty-two (32) accidents occurred at the NYS Route 31 / Lakeshore Road west intersection including 22 rearend accidents, 4 right angle accidents, 2 fixed object accidents, 1 left turn accident, 1 overtaking accident, 1 non-collision accident and 1 animal related accident. The accident rate is above the statewide average for similar facilities.

Thirty-five (35) accidents occurred at the NYS Route 31 / South Bay Road intersection including 19 rearend accidents, 6 right angle accidents, 3 left turn accidents, 2 fixed object accidents, 2 overtaking accidents, 1 sideswipe accident, 1 bicyclist accident and 1 animal related accident. The accident rate is above the statewide average for similar facilities.

Seven (7) accidents occurred at the NYS Route 31 / Cicero Center Road intersection including 4 rearend accidents, 1 overtaking accident, 1 sideswipe accident and 1 bicyclist. The accident rate is below the statewide average for similar facilities.

Other intersection accidents along Route 31 at intersections not included in the study were as follows:

- NYS Route 31 @ Thompson Road – 33 accidents
- NYS Route 31 @ New Country Road – 11 accidents
- NYS Route 31 @ Crabtree Lane – 12 accidents
- NYS Route 31 @ Lakeshore Spur Road – 10 accidents
- NYS Route 31 @ Button Road – 7 accidents
- NYS Route 31 @ Whiting Road – 2 accidents
- NYS Route 31 @ Eastwood Road – 2 accidents



- NYS Route 31 @ Doreen Avenue – 2 accidents
- NYS Route 31 @ Boyko Farm Road – 2 accidents

Along NYS Route 31, there were 172 total midblock accidents including 51 rearend accidents, 30 fixed object accidents, 28 right angle accidents, 26 overtaking accidents, 15 animal related accidents, 11 left turn accidents, 2 right turn accidents, 2 backing accidents, 2 other accidents, 1 pedestrian accident, 1 sideswipe accident, 1 head on accidents and 1 fire accident. The overall accident rate for NYS Route 31 is just slightly above the statewide average rate for similar facilities.

Three (3) accidents occurred at the Lakeshore Road / South Bay Road intersection including 2 fixed object accidents and 1 right angle accident. The accident rate is above the statewide average for similar facilities.

Two (2) fixed object accidents occurred at the Lakeshore Road / Mudd Mill Road intersection. The accident rate is above the statewide average for similar facilities.

Two (2) accidents occurred at the Lakeshore Road / Cicero Center Road intersection including 1 fixed object accident and 1 rearend accident. The accident rate is above the statewide average for similar facilities.

Other intersection accidents along Lakeshore Road at intersections not included in the study were as follows:

- Lakeshore Road @ Snowshoe – 5 accidents
- Lakeshore Road @ Belnor – 2 accidents
- Lakeshore Road @ Backstretch – 2 accidents
- Lakeshore Road @ Eldan – 2 accidents
- Lakeshore Road @ Button – 1 accident
- Lakeshore Road @ Whiting – 2 accidents
- Lakeshore Road @ Carmenica – 1 accident
- Lakeshore Road @ McDonnells – 1 accident

Along Lakeshore Road, there were 31 total midblock accidents including 12 fixed object accidents, 6 animal related accidents, 5 overtaking accidents, 3 rearend accidents, 2 right angle accidents, 1 bicycle accident, 1 pedestrian accident and 1 sideswipe accident. The overall accident rate for Lakeshore Road is below the statewide average rate for similar facilities.

Twenty-three (23) accidents occurred at the South Bay Thompson Road intersection including 14 rearend accidents, 3 left turn accidents, 2 head on accidents, 2 backing accidents, 1 right angle accident and 1 sideswipe accident. The accident rate is above the statewide average for similar facilities.

Other intersection accidents along South Bay Road at intersections not included in the study were as follows:

- South Bay Road @ Whiting – 8 accidents
- South Bay Road @ Daedalus – 1 accident
- South Bay Road @ Henryk – 1 accident
- South Bay Road @ Owasco – 1 accident
- South Bay Road @ Cicero – 1 accident

Along South Bay Road, there were 15 total midblock accidents including 6 fixed object accidents, 4 animal related accidents, 3 rearend accidents, 1 overtaking accident, and 1 pedestrian accident. The overall accident rate for South Bay Road is slightly below the statewide average rate for similar facilities.



There were 31 accidents in area parking lots and 3 accidents on roadways outside the study area included in the data.

Of the accidents, 500 (79%) were non-reportable or property damage only accidents. There were 129 injury accidents with no fatalities.

#### 4.2 Compare Rates to Accepted Values

The following table provides a comparison of the existing accident rates to the statewide average rate for similar facilities:

| Intersection and Link Accident Rates |                                       |                                                |
|--------------------------------------|---------------------------------------|------------------------------------------------|
| Intersection / Link                  | Calculated Intersection Accident Rate | Statewide Accident Rate for Similar Facilities |
| Route 31 @ Route 11                  | 1.93 acc/mev                          | 0.52 acc/mev                                   |
| Route 31 @ I-81 NB / Pardee          | 1.26 acc/mev                          | 0.52 acc/mev                                   |
| Route 31 @ I-81 SB                   | 0.76 acc/mev                          | 0.52 acc/mev                                   |
| Route 31 @ Lakeshore                 | 1.01 acc/mev                          | 0.18 acc/mev                                   |
| Route 31 @ South Bay                 | 1.55 acc/mev                          | 0.52 acc/mev                                   |
| Route 31 @ Cicero Center             | 0.55 acc/mev                          | 0.52 acc/mev                                   |
| Lakeshore @ South Bay                | 0.47 acc/mev                          | 0.18 acc/mev                                   |
| Lakeshore @ Mudd Mill                | 0.28 acc/mev                          | 0.18 acc/mev                                   |
| Lakeshore @ Cicero Center            | 0.31 acc/mev                          | 0.29 acc/mev                                   |
| South Bay @ Thompson                 | 0.96 acc/mev                          | 0.52 acc/mev                                   |
|                                      |                                       |                                                |
| Route 31                             | 2.25 acc/mvm                          | 2.23 acc/mvm                                   |
| Lakeshore Road                       | 1.70 acc/mvm                          | 2.23 acc/mvm                                   |
| South Bay Road                       | 2.22 acc/mvm                          | 2.23 acc/mvm                                   |

Acc/mev = Accidents per million entering vehicles

Acc/mvm = Accidents per million vehicle-miles



## **APPENDIX A**

Concept Plan



**PROPOSED LAKESHORE  
VILLAGE**

# RESIDENTIAL AREA CONCEPT PLAN

Drawing No.:

**C-103**





## **APPENDIX B**

Gap Data & Speed Data



## Intersection Gap Study

Project: Proposed Lakeshore Village Development - Lakeshore Road - Cicero, NY  
 Date: 5/11/22 & 5/14/2022



Intersection: Site Driveways @ Lakeshore Road  
 Movement: Southbound Right Turns Exiting / Eastbound Left Turns Entering

| Time Interval | 6-9 sec<br>x 1 | 10-13 sec<br>x 2 | 14-17 sec<br>x 3 | 18-19 sec<br>x 4 | 20-23 sec<br>x 5 | 24-25 sec<br>x 6 | 26-29 sec<br>x 7 | >29 sec<br>x 8 | Interval<br>Total | Hour<br>Total |
|---------------|----------------|------------------|------------------|------------------|------------------|------------------|------------------|----------------|-------------------|---------------|
|---------------|----------------|------------------|------------------|------------------|------------------|------------------|------------------|----------------|-------------------|---------------|

### Morning Peak Hour

|             |               |   |   |   |   |    |   |    |     |     |     |
|-------------|---------------|---|---|---|---|----|---|----|-----|-----|-----|
| 7:15-7:30am | # of Gaps     | 0 | 0 | 0 | 0 | 2  | 0 | 6  | 18  |     |     |
|             | # of Vehicles | 0 | 0 | 0 | 0 | 10 | 0 | 42 | 144 | 196 |     |
| 7:30-7:45am | # of Gaps     | 3 | 2 | 2 | 2 | 2  | 0 | 0  | 18  |     |     |
|             | # of Vehicles | 3 | 4 | 6 | 8 | 10 | 0 | 0  | 144 | 175 |     |
| 7:45-8:00am | # of Gaps     | 2 | 2 | 3 | 0 | 2  | 1 | 3  | 13  |     |     |
|             | # of Vehicles | 2 | 4 | 9 | 0 | 10 | 6 | 21 | 104 | 156 |     |
| 8:00-8:15am | # of Gaps     | 2 | 1 | 2 | 0 | 3  | 0 | 5  | 15  |     |     |
|             | # of Vehicles | 2 | 2 | 6 | 0 | 15 | 0 | 35 | 120 | 180 | 707 |

### Evening Peak Hour

|             |               |   |    |    |   |    |   |    |     |     |     |
|-------------|---------------|---|----|----|---|----|---|----|-----|-----|-----|
| 4:30-4:45pm | # of Gaps     | 4 | 2  | 3  | 1 | 1  | 0 | 4  | 15  |     |     |
|             | # of Vehicles | 4 | 4  | 9  | 4 | 5  | 0 | 28 | 120 | 174 |     |
| 4:45-5:00pm | # of Gaps     | 3 | 0  | 2  | 0 | 1  | 1 | 0  | 12  |     |     |
|             | # of Vehicles | 3 | 0  | 6  | 0 | 5  | 6 | 0  | 96  | 116 |     |
| 5:00-5:15pm | # of Gaps     | 3 | 4  | 5  | 1 | 2  | 1 | 2  | 13  |     |     |
|             | # of Vehicles | 3 | 8  | 15 | 4 | 10 | 6 | 14 | 104 | 164 |     |
| 5:15-5:30pm | # of Gaps     | 3 | 6  | 4  | 2 | 4  | 1 | 2  | 11  |     |     |
|             | # of Vehicles | 3 | 12 | 12 | 8 | 20 | 6 | 14 | 88  | 163 | 617 |

### Saturday Peak Hour

|                 |               |   |   |    |   |    |   |    |     |     |     |
|-----------------|---------------|---|---|----|---|----|---|----|-----|-----|-----|
| 11:00-11:15pm   | # of Gaps     | 2 | 4 | 6  | 1 | 1  | 0 | 3  | 11  |     |     |
|                 | # of Vehicles | 2 | 8 | 18 | 4 | 5  | 0 | 21 | 88  | 146 |     |
| 11:15-11:30am   | # of Gaps     | 2 | 4 | 0  | 2 | 1  | 1 | 0  | 14  |     |     |
|                 | # of Vehicles | 2 | 8 | 0  | 8 | 5  | 6 | 0  | 112 | 141 |     |
| 11:30-11:45am   | # of Gaps     | 3 | 2 | 1  | 1 | 4  | 1 | 2  | 12  |     |     |
|                 | # of Vehicles | 3 | 4 | 3  | 4 | 20 | 6 | 14 | 96  | 150 |     |
| 11:45am-12:00pm | # of Gaps     | 2 | 3 | 0  | 2 | 2  | 0 | 2  | 13  |     |     |
|                 | # of Vehicles | 2 | 6 | 0  | 8 | 10 | 0 | 14 | 104 | 144 | 581 |



## Intersection Gap Study

Project: Proposed Lakeshore Village Development - Lakeshore Road - Cicero, NY  
 Date: 5/11/22 & 5/14/2022



Intersection: Site Driveways @ Lakeshore Road  
 Movement: Northbound Right Turns Exiting / Westbound Left Turns Entering

| Time Interval | 6-9 sec<br>x 1 | 10-13 sec<br>x 2 | 14-17 sec<br>x 3 | 18-19 sec<br>x 4 | 20-23 sec<br>x 5 | 24-25 sec<br>x 6 | 26-29 sec<br>x 7 | >29 sec<br>x 8 | Interval<br>Total | Hour<br>Total |
|---------------|----------------|------------------|------------------|------------------|------------------|------------------|------------------|----------------|-------------------|---------------|
|---------------|----------------|------------------|------------------|------------------|------------------|------------------|------------------|----------------|-------------------|---------------|

### Morning Peak Hour

|             |               |   |   |   |    |    |    |    |     |     |     |
|-------------|---------------|---|---|---|----|----|----|----|-----|-----|-----|
| 7:15-7:30am | # of Gaps     | 2 | 1 | 1 | 0  | 0  | 1  | 3  | 15  |     |     |
|             | # of Vehicles | 2 | 2 | 3 | 0  | 0  | 6  | 21 | 120 | 154 |     |
| 7:30-7:45am | # of Gaps     | 1 | 1 | 1 | 0  | 0  | 0  | 1  | 18  |     |     |
|             | # of Vehicles | 1 | 2 | 3 | 0  | 0  | 0  | 7  | 144 | 157 |     |
| 7:45-8:00am | # of Gaps     | 4 | 3 | 1 | 4  | 1  | 2  | 4  | 12  |     |     |
|             | # of Vehicles | 4 | 6 | 3 | 16 | 5  | 12 | 28 | 96  | 170 |     |
| 8:00-8:15am | # of Gaps     | 1 | 1 | 1 | 0  | 2  | 0  | 5  | 16  |     |     |
|             | # of Vehicles | 1 | 2 | 3 | 0  | 10 | 0  | 35 | 128 | 179 | 660 |

### Evening Peak Hour

|             |               |   |    |    |    |    |    |    |    |     |     |
|-------------|---------------|---|----|----|----|----|----|----|----|-----|-----|
| 4:30-4:45pm | # of Gaps     | 1 | 3  | 5  | 1  | 2  | 1  | 2  | 12 |     |     |
|             | # of Vehicles | 1 | 6  | 15 | 4  | 10 | 6  | 14 | 96 | 152 |     |
| 4:45-5:00pm | # of Gaps     | 3 | 7  | 5  | 3  | 2  | 1  | 3  | 9  |     |     |
|             | # of Vehicles | 3 | 14 | 15 | 12 | 10 | 6  | 21 | 72 | 153 |     |
| 5:00-5:15pm | # of Gaps     | 4 | 7  | 5  | 3  | 1  | 2  | 2  | 12 |     |     |
|             | # of Vehicles | 4 | 14 | 15 | 12 | 5  | 12 | 14 | 96 | 172 |     |
| 5:15-5:30pm | # of Gaps     | 4 | 3  | 6  | 1  | 2  | 2  | 2  | 12 |     |     |
|             | # of Vehicles | 4 | 6  | 18 | 4  | 10 | 12 | 14 | 96 | 164 | 641 |

### Saturday Peak Hour

|                 |               |   |    |    |    |    |    |    |     |     |     |
|-----------------|---------------|---|----|----|----|----|----|----|-----|-----|-----|
| 11:00-11:15pm   | # of Gaps     | 1 | 1  | 0  | 3  | 1  | 0  | 2  | 12  |     |     |
|                 | # of Vehicles | 1 | 2  | 0  | 12 | 5  | 0  | 14 | 96  | 130 |     |
| 11:15-11:30am   | # of Gaps     | 4 | 3  | 1  | 2  | 2  | 0  | 6  | 14  |     |     |
|                 | # of Vehicles | 4 | 6  | 3  | 8  | 10 | 0  | 42 | 112 | 185 |     |
| 11:30-11:45am   | # of Gaps     | 1 | 7  | 2  | 0  | 2  | 1  | 1  | 14  |     |     |
|                 | # of Vehicles | 1 | 14 | 6  | 0  | 10 | 6  | 7  | 112 | 156 |     |
| 11:45am-12:00pm | # of Gaps     | 2 | 5  | 4  | 1  | 0  | 2  | 2  | 12  |     |     |
|                 | # of Vehicles | 2 | 10 | 12 | 4  | 0  | 12 | 14 | 96  | 150 | 621 |



## Intersection Gap Study

Project: Proposed Lakeshore Village Development - Lakeshore Road - Cicero, NY  
 Date: 5/11/22 & 5/14/2022



Intersection: Site Driveways @ Lakeshore Road  
 Movement: Left Turns Exiting

| Time Interval | 6-9 sec<br>x 1 | 10-13 sec<br>x 2 | 14-17 sec<br>x 3 | 18-19 sec<br>x 4 | 20-23 sec<br>x 5 | 24-25 sec<br>x 6 | 26-29 sec<br>x 7 | >29 sec<br>x 8 | Interval<br>Total | Hour<br>Total |
|---------------|----------------|------------------|------------------|------------------|------------------|------------------|------------------|----------------|-------------------|---------------|
|---------------|----------------|------------------|------------------|------------------|------------------|------------------|------------------|----------------|-------------------|---------------|

### Morning Peak Hour

|             |               |   |    |    |    |    |    |    |    |     |     |
|-------------|---------------|---|----|----|----|----|----|----|----|-----|-----|
| 7:15-7:30am | # of Gaps     | 0 | 3  | 2  | 1  | 2  | 2  | 8  | 10 |     |     |
|             | # of Vehicles | 0 | 6  | 6  | 4  | 10 | 12 | 56 | 80 | 174 |     |
| 7:30-7:45am | # of Gaps     | 4 | 5  | 3  | 2  | 2  | 0  | 0  | 10 |     |     |
|             | # of Vehicles | 4 | 10 | 9  | 8  | 10 | 0  | 0  | 80 | 121 |     |
| 7:45-8:00am | # of Gaps     | 9 | 6  | 4  | 3  | 2  | 1  | 4  | 9  |     |     |
|             | # of Vehicles | 9 | 12 | 12 | 12 | 10 | 6  | 28 | 72 | 161 |     |
| 8:00-8:15am | # of Gaps     | 3 | 2  | 3  | 0  | 4  | 0  | 7  | 11 |     |     |
|             | # of Vehicles | 3 | 4  | 9  | 0  | 20 | 0  | 49 | 88 | 173 | 629 |

### Evening Peak Hour

|             |               |    |    |    |    |    |    |    |    |     |     |
|-------------|---------------|----|----|----|----|----|----|----|----|-----|-----|
| 4:30-4:45pm | # of Gaps     | 7  | 6  | 9  | 0  | 1  | 0  | 3  | 5  |     |     |
|             | # of Vehicles | 7  | 12 | 27 | 0  | 5  | 0  | 21 | 40 | 112 |     |
| 4:45-5:00pm | # of Gaps     | 7  | 5  | 9  | 3  | 5  | 0  | 3  | 6  |     |     |
|             | # of Vehicles | 7  | 10 | 27 | 12 | 25 | 0  | 21 | 48 | 150 |     |
| 5:00-5:15pm | # of Gaps     | 8  | 10 | 7  | 3  | 2  | 2  | 4  | 6  |     |     |
|             | # of Vehicles | 8  | 20 | 21 | 12 | 10 | 12 | 28 | 48 | 159 |     |
| 5:15-5:30pm | # of Gaps     | 14 | 11 | 7  | 3  | 3  | 2  | 3  | 4  |     |     |
|             | # of Vehicles | 14 | 22 | 21 | 12 | 15 | 12 | 21 | 32 | 149 | 570 |

### Saturday Peak Hour

|                 |               |   |    |    |    |    |    |    |    |     |     |
|-----------------|---------------|---|----|----|----|----|----|----|----|-----|-----|
| 11:00-11:15pm   | # of Gaps     | 4 | 2  | 6  | 2  | 1  | 0  | 6  | 5  |     |     |
|                 | # of Vehicles | 4 | 4  | 18 | 8  | 5  | 0  | 42 | 40 | 121 |     |
| 11:15-11:30am   | # of Gaps     | 7 | 5  | 3  | 5  | 3  | 2  | 6  | 4  |     |     |
|                 | # of Vehicles | 7 | 10 | 9  | 20 | 15 | 12 | 42 | 32 | 147 |     |
| 11:30-11:45am   | # of Gaps     | 6 | 8  | 2  | 1  | 4  | 0  | 3  | 6  |     |     |
|                 | # of Vehicles | 6 | 16 | 6  | 4  | 20 | 0  | 21 | 48 | 121 |     |
| 11:45am-12:00pm | # of Gaps     | 5 | 9  | 3  | 2  | 1  | 1  | 3  | 5  |     |     |
|                 | # of Vehicles | 5 | 18 | 9  | 8  | 5  | 6  | 21 | 40 | 112 | 501 |



**Proposed Lakeshore Village Development - Lakeshore Road, Town of Cicero, NY**

Speed Study Measurements - Lakeshore Road Passing Site

5/12/2022

Distance Travelled (ft) = 175

50 Speed Measurements per Direction

Speed Limit 35 mph

| EB Time<br>Seconds | Calculated<br>Speed | EB Time<br>Seconds | Calculated<br>Speed | WB Time<br>Seconds | Calculated<br>Speed | WB Time<br>Seconds | Calculated<br>Speed |
|--------------------|---------------------|--------------------|---------------------|--------------------|---------------------|--------------------|---------------------|
| 3.03               | 39                  | 2.87               | 42                  | 3.22               | 37                  | 2.75               | 43                  |
| 3.57               | 33                  | 2.85               | 42                  | 3.22               | 37                  | 2.74               | 44                  |
| 3.41               | 35                  | 2.84               | 42                  | 3.18               | 38                  | 2.72               | 44                  |
| 3.40               | 35                  | 2.84               | 42                  | 3.03               | 39                  | 2.72               | 44                  |
| 3.34               | 36                  | 2.84               | 42                  | 3.03               | 39                  | 2.72               | 44                  |
| 3.34               | 36                  | 2.84               | 42                  | 3.03               | 39                  | 2.72               | 44                  |
| 3.31               | 36                  | 2.82               | 42                  | 3.03               | 39                  | 2.72               | 44                  |
| 3.31               | 36                  | 2.81               | 42                  | 3.02               | 40                  | 2.71               | 44                  |
| 3.28               | 36                  | 2.81               | 42                  | 2.97               | 40                  | 2.69               | 44                  |
| 3.22               | 37                  | 2.81               | 42                  | 2.96               | 40                  | 2.69               | 44                  |
| 3.22               | 37                  | 2.81               | 42                  | 2.95               | 40                  | 2.68               | 45                  |
| 3.16               | 38                  | 2.79               | 43                  | 2.93               | 41                  | 2.66               | 45                  |
| 3.12               | 38                  | 2.79               | 43                  | 2.93               | 41                  | 2.65               | 45                  |
| 3.10               | 38                  | 2.78               | 43                  | 2.9                | 41                  | 2.64               | 45                  |
| 3.06               | 39                  | 2.78               | 43                  | 2.87               | 42                  | 2.63               | 45                  |
| 3.03               | 39                  | 2.78               | 43                  | 2.87               | 42                  | 2.63               | 45                  |
| 3.03               | 39                  | 2.74               | 44                  | 2.87               | 42                  | 2.62               | 46                  |
| 2.99               | 40                  | 2.74               | 44                  | 2.87               | 42                  | 2.6                | 46                  |
| 2.97               | 40                  | 2.73               | 44                  | 2.86               | 42                  | 2.59               | 46                  |
| 2.97               | 40                  | 2.73               | 44                  | 2.85               | 42                  | 2.59               | 46                  |
| 2.96               | 40                  | 2.69               | 44                  | 2.84               | 42                  | 2.56               | 47                  |
| 2.94               | 41                  | 2.68               | 45                  | 2.84               | 42                  | 2.53               | 47                  |
| 2.9                | 41                  | 2.67               | 45                  | 2.84               | 42                  | 2.48               | 48                  |
| 2.88               | 41                  | 2.63               | 45                  | 2.82               | 42                  | 2.47               | 48                  |
| 2.88               | 41                  | 2.59               | 46                  | 2.78               | 43                  | 2.47               | 48                  |

Eastbound

Average Speed = 41 mph

85th Percentile Speed = 44 mph

Westbound

Average Speed = 43 mph

85th Percentile Speed = 46 mph



## **APPENDIX C**

Traffic Volume Figures 1-32





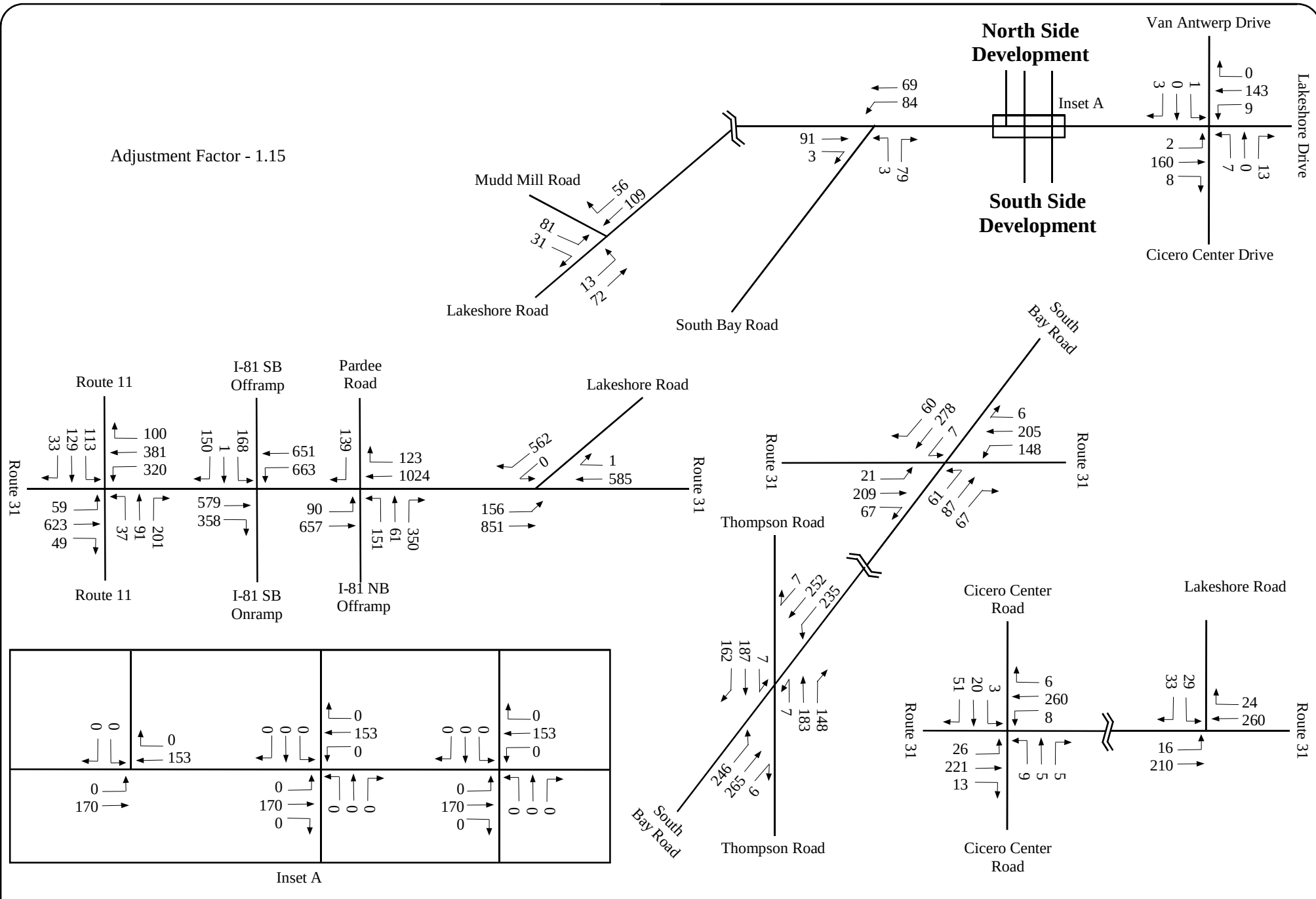












## Proposed Lakeshore Village Development - Lakeshore Road - Town of Cicero, NY

2022 Existing Traffic Volumes - With Seasonal/Covid Adjustment

Morning Peak Hour

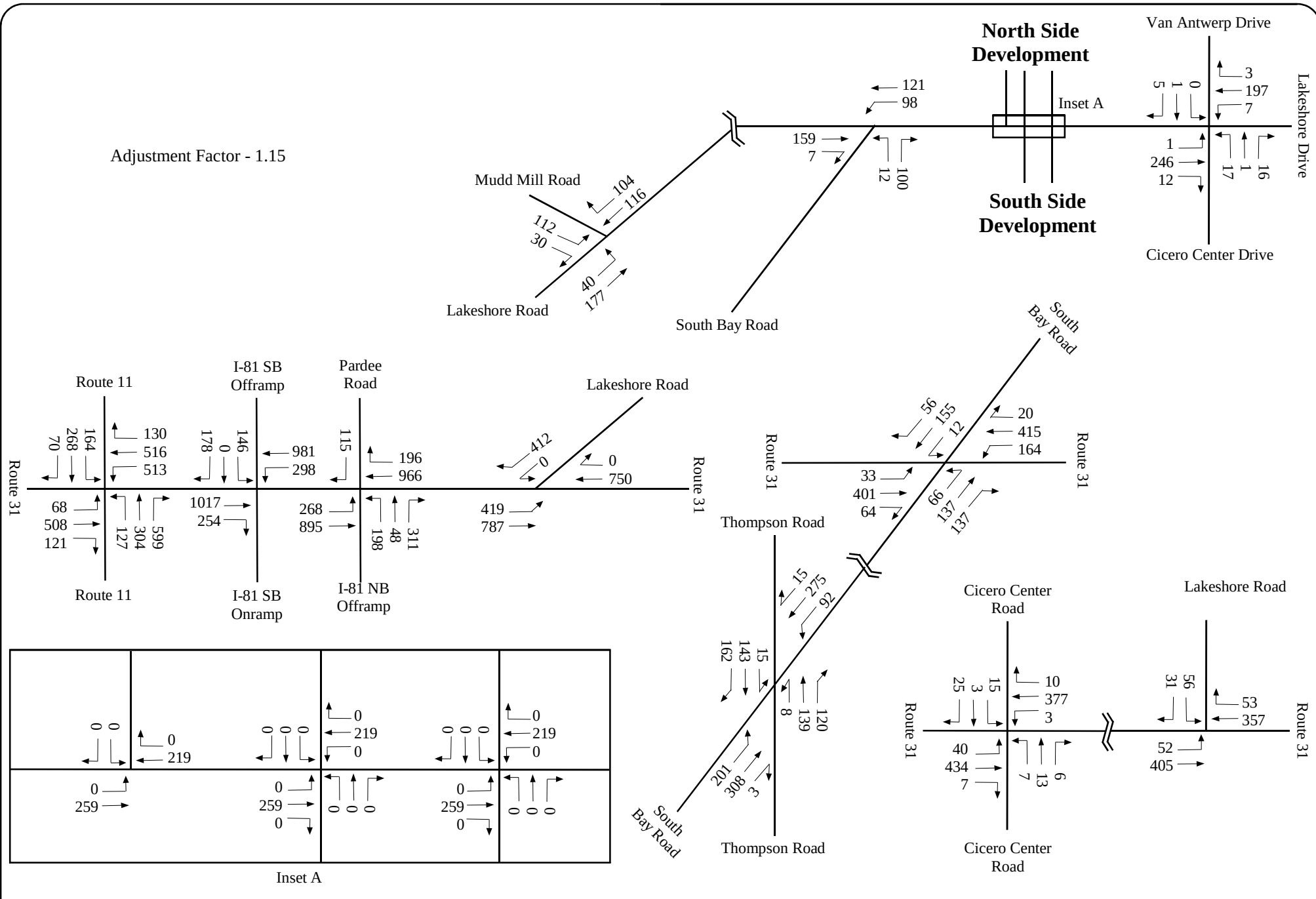
Figure 4











# **Proposed Lakeshore Village Development - Lakeshore Road - Town of Cicero, NY**

2022 Existing Traffic Volumes - With Seasonal/Covid Adjustment  
 Saturday Peak Hour

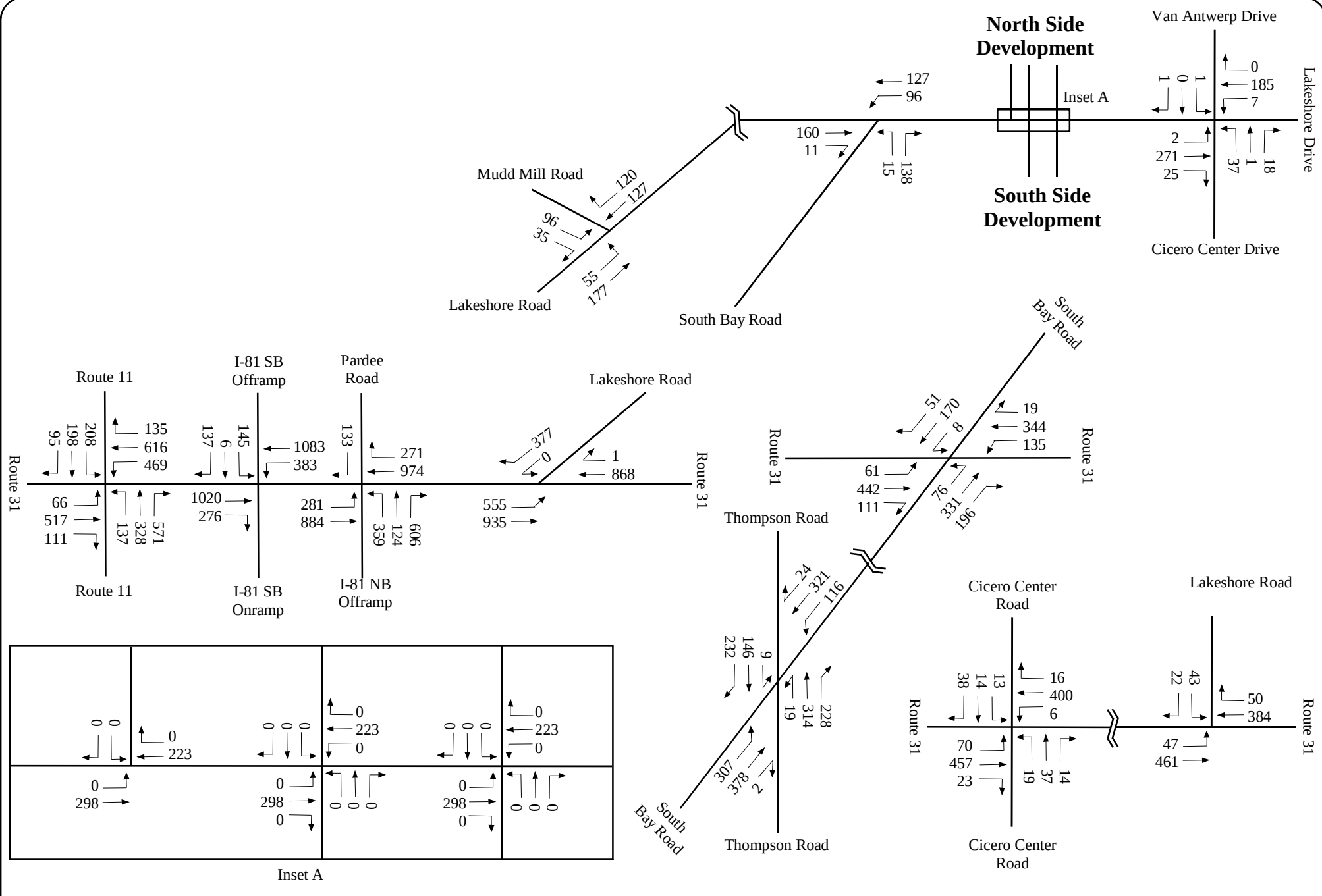
**Figure 6**











# **Proposed Lakeshore Village Development - Lakeshore Road - Town of Cicero, NY**

2032 Base Traffic Volumes - With 0.5% Growth per Year (5% Total)

Evening Peak Hour

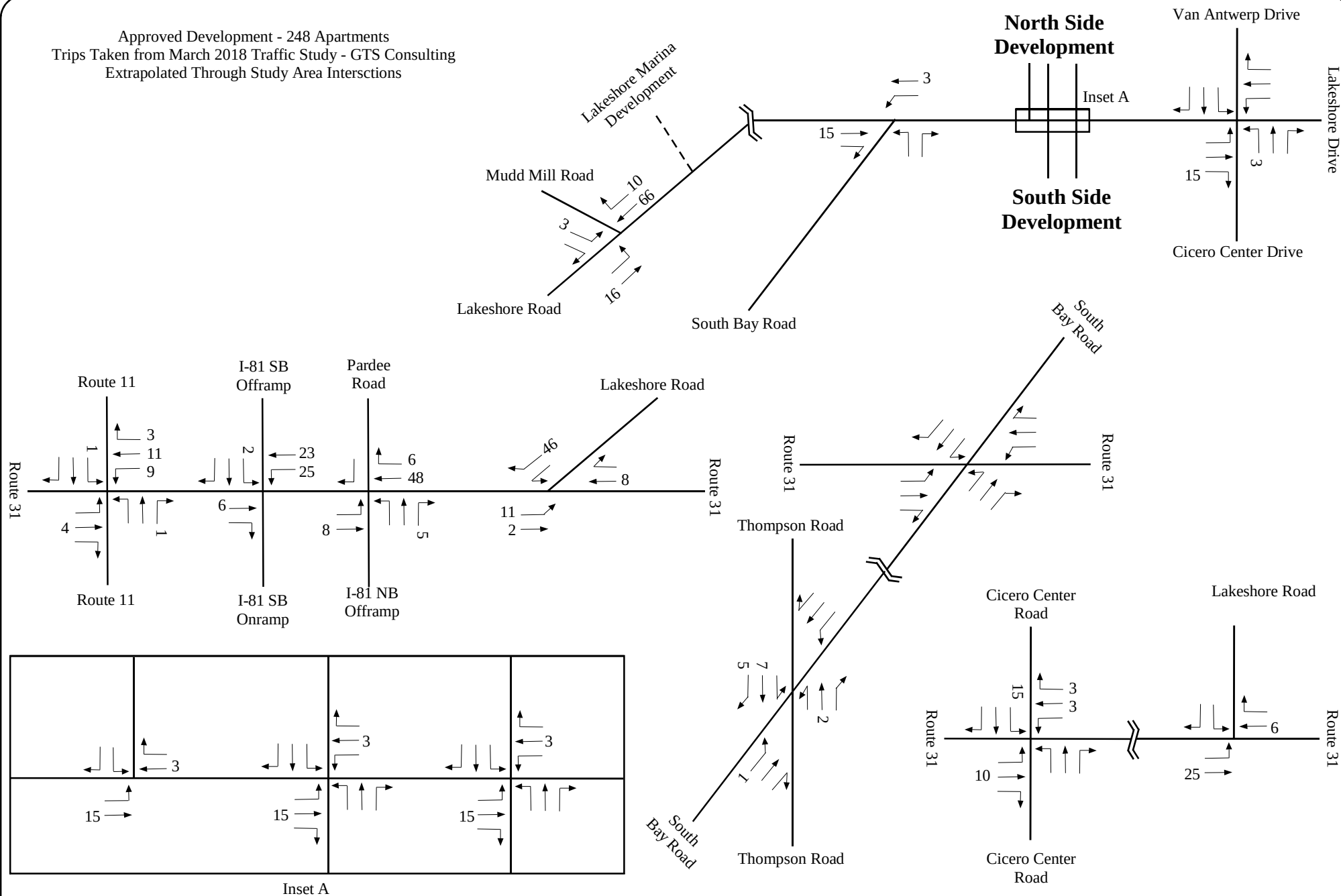
**Figure 8**







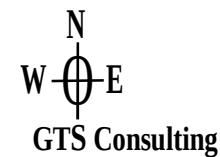
Approved Development - 248 Apartments  
Trips Taken from March 2018 Traffic Study - GTS Consulting  
Extrapolated Through Study Area Intersections



## Proposed Lakeshore Village Development - Lakeshore Road - Town of Cicero, NY

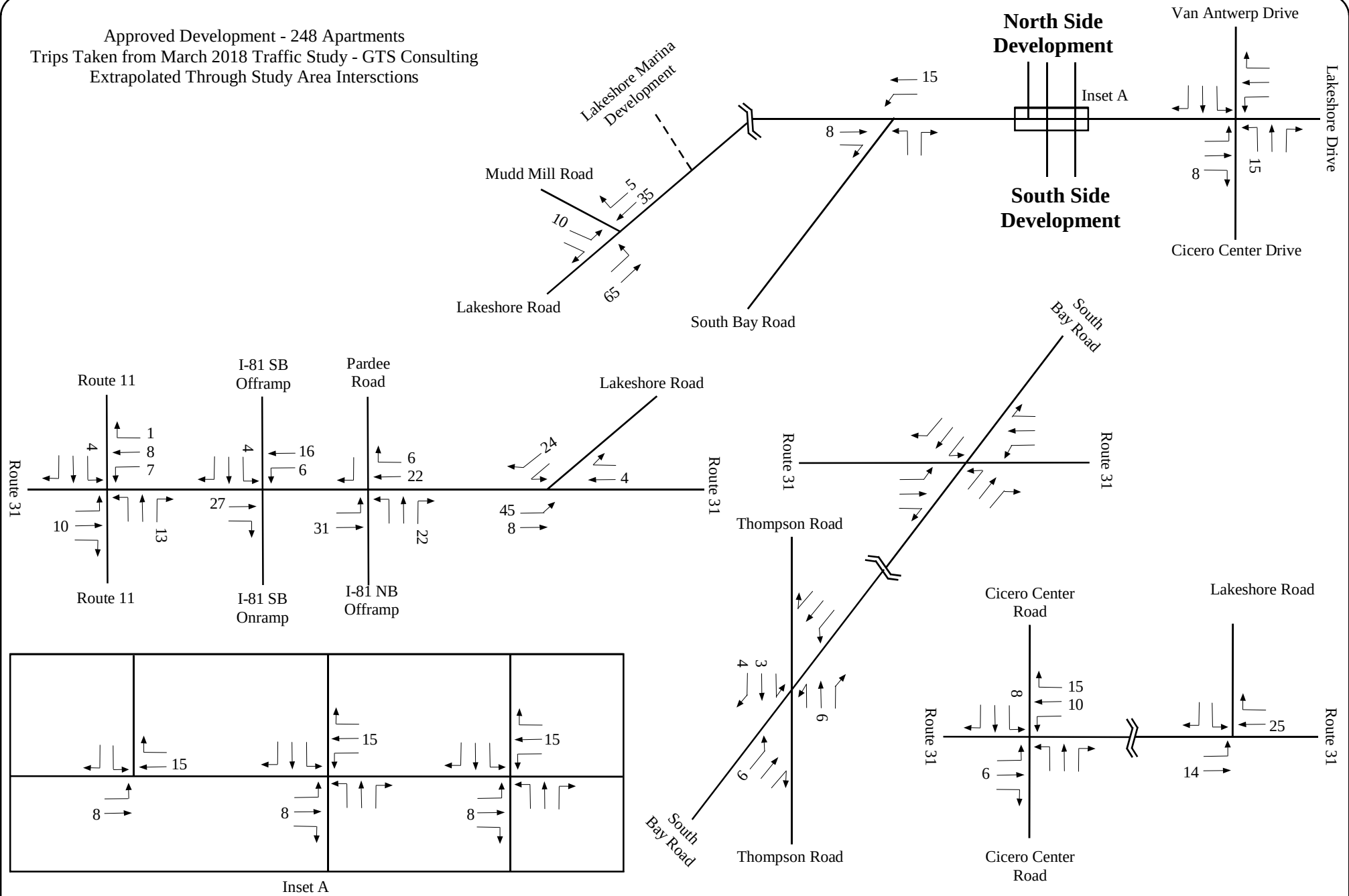
Approved Development Trips - Lakeshore Marina Apartments  
Morning Peak Hour

### Figure 10





Approved Development - 248 Apartments  
 Trips Taken from March 2018 Traffic Study - GTS Consulting  
 Extrapolated Through Study Area Intersections



## Proposed Lakeshore Village Development - Lakeshore Road - Town of Cicero, NY

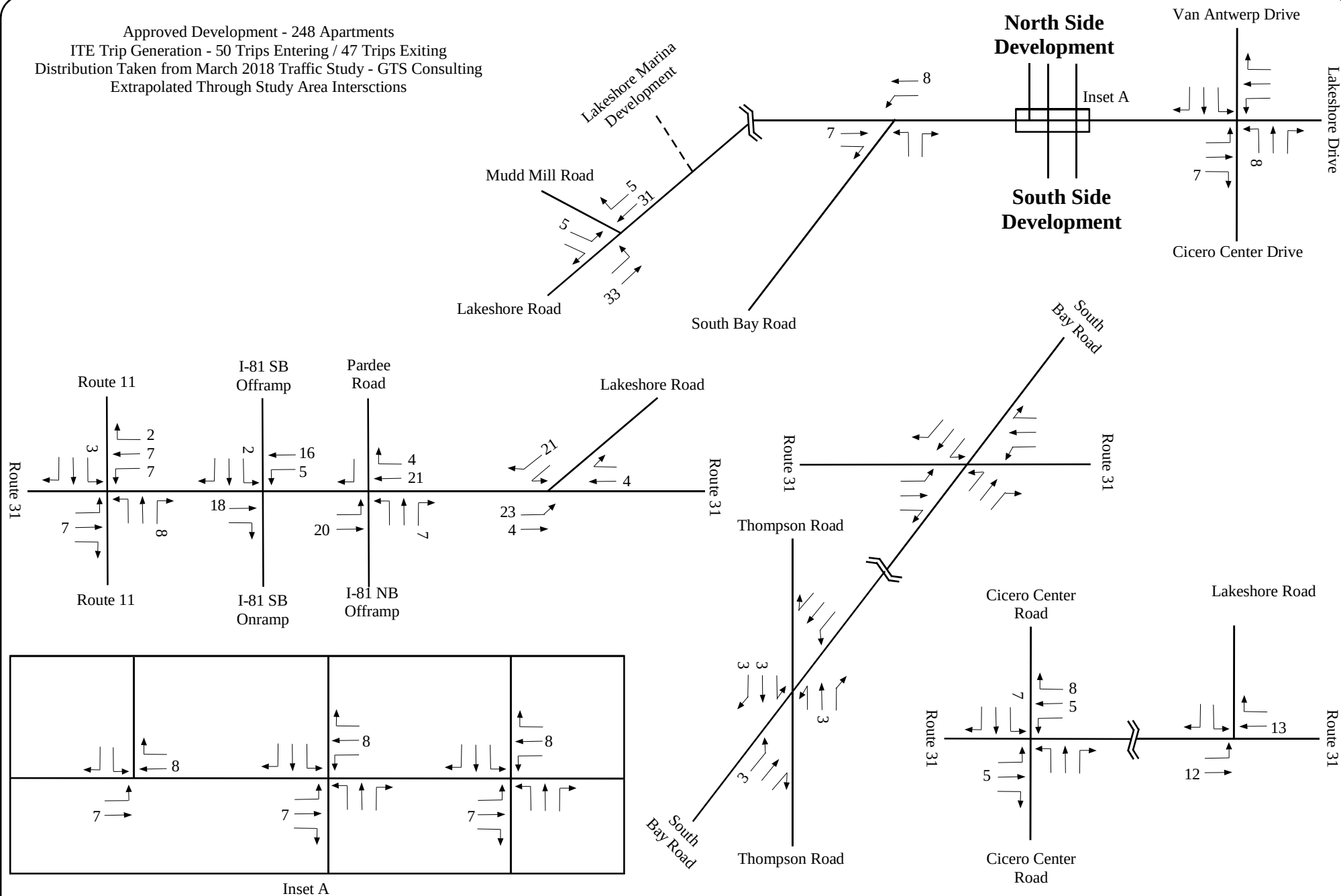
Approved Development Trips - Lakeshore Marina Apartments  
 Evening Peak Hour

Figure 11





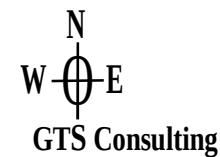
Approved Development - 248 Apartments  
 ITE Trip Generation - 50 Trips Entering / 47 Trips Exiting  
 Distribution Taken from March 2018 Traffic Study - GTS Consulting  
 Extrapolated Through Study Area Intersections



## Proposed Lakeshore Village Development - Lakeshore Road - Town of Cicero, NY

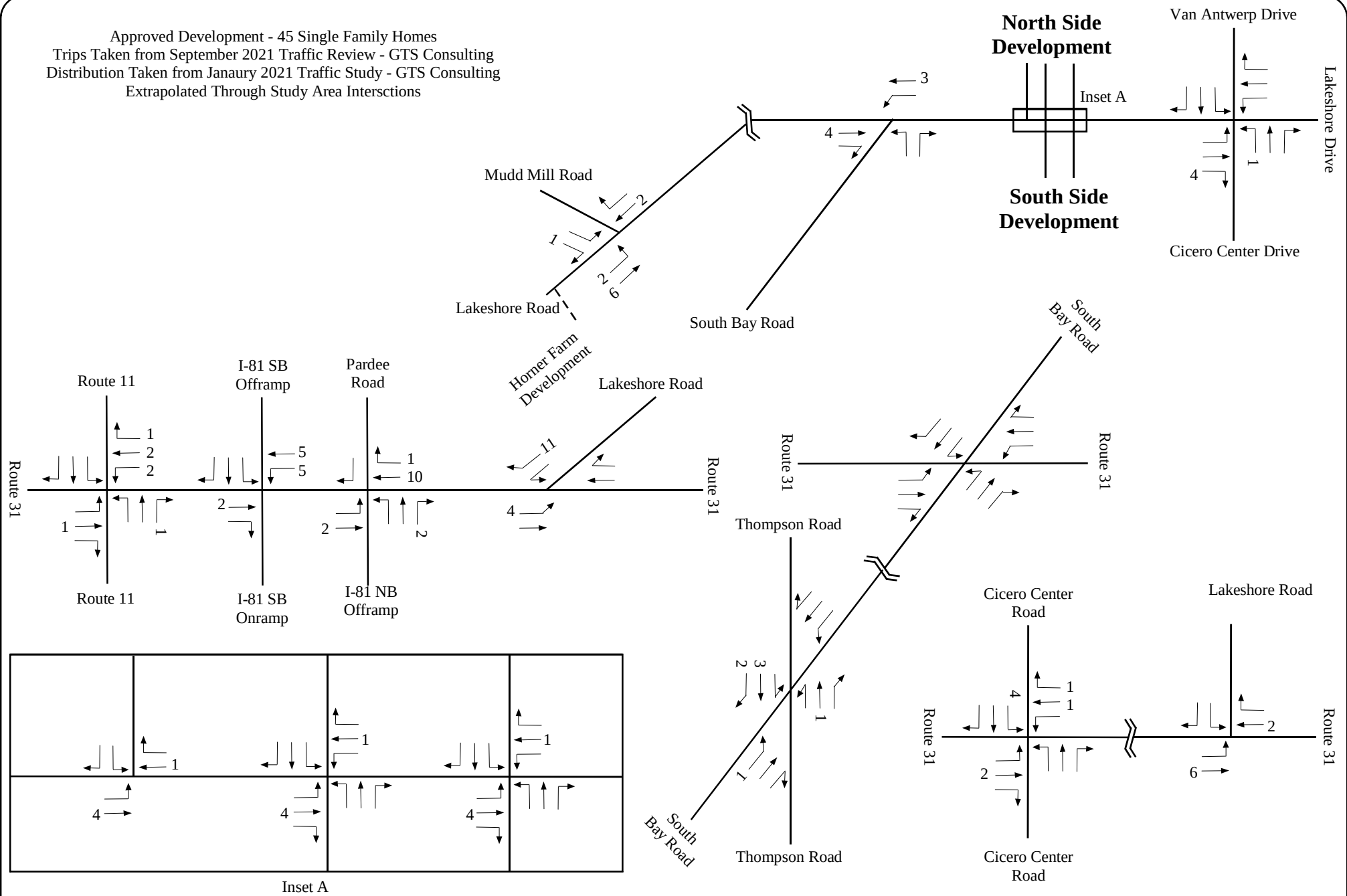
Approved Development Trips - Lakeshore Marina Apartments  
 Saturday Peak Hour

Figure 12





Approved Development - 45 Single Family Homes  
 Trips Taken from September 2021 Traffic Review - GTS Consulting  
 Distribution Taken from January 2021 Traffic Study - GTS Consulting  
 Extrapolated Through Study Area Intersections



## Proposed Lakeshore Village Development - Lakeshore Road - Town of Cicero, NY

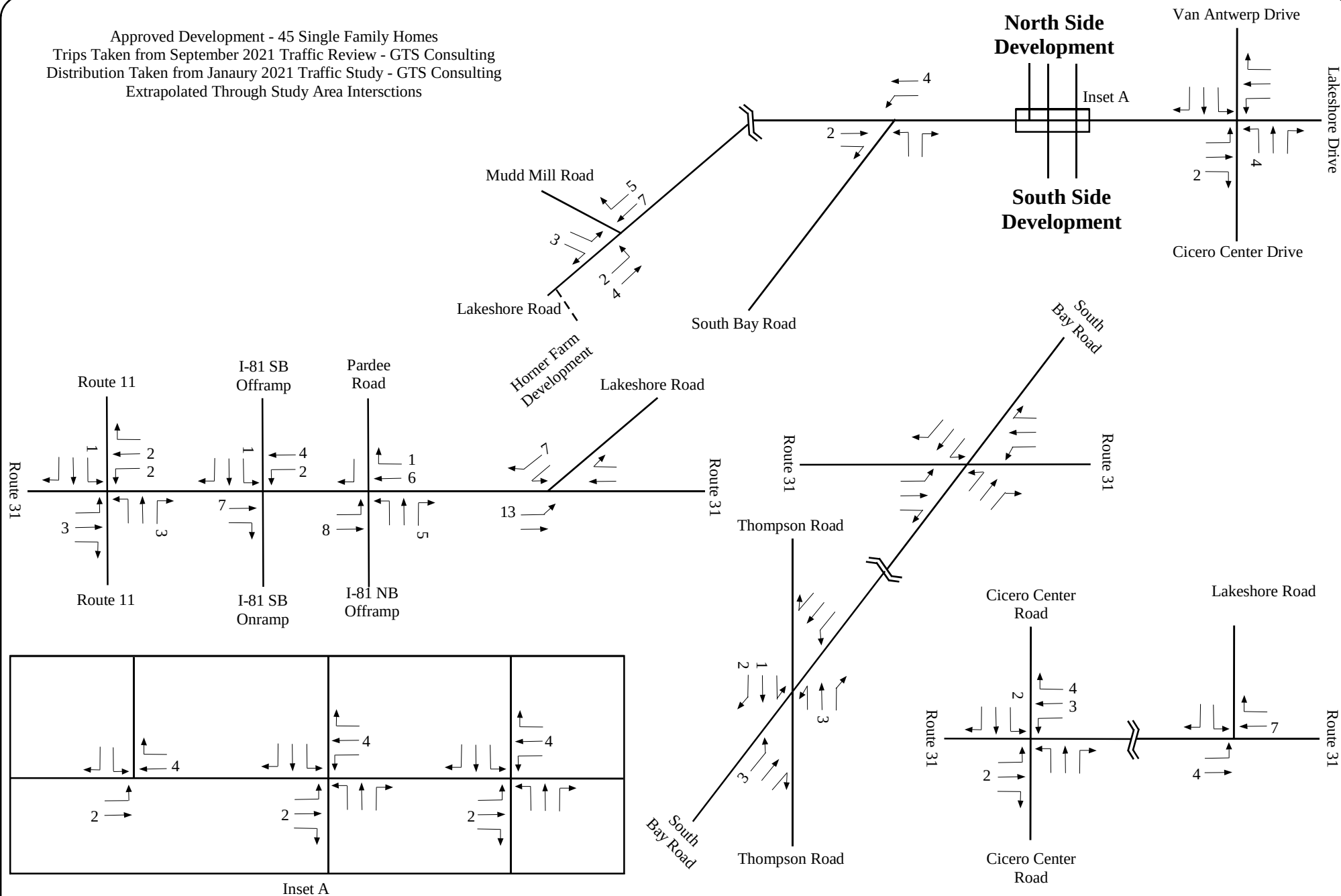
Approved Development Trips - Horner Farm Subdivision  
 Morning Peak Hour

Figure 13





Approved Development - 45 Single Family Homes  
 Trips Taken from September 2021 Traffic Review - GTS Consulting  
 Distribution Taken from January 2021 Traffic Study - GTS Consulting  
 Extrapolated Through Study Area Intersections



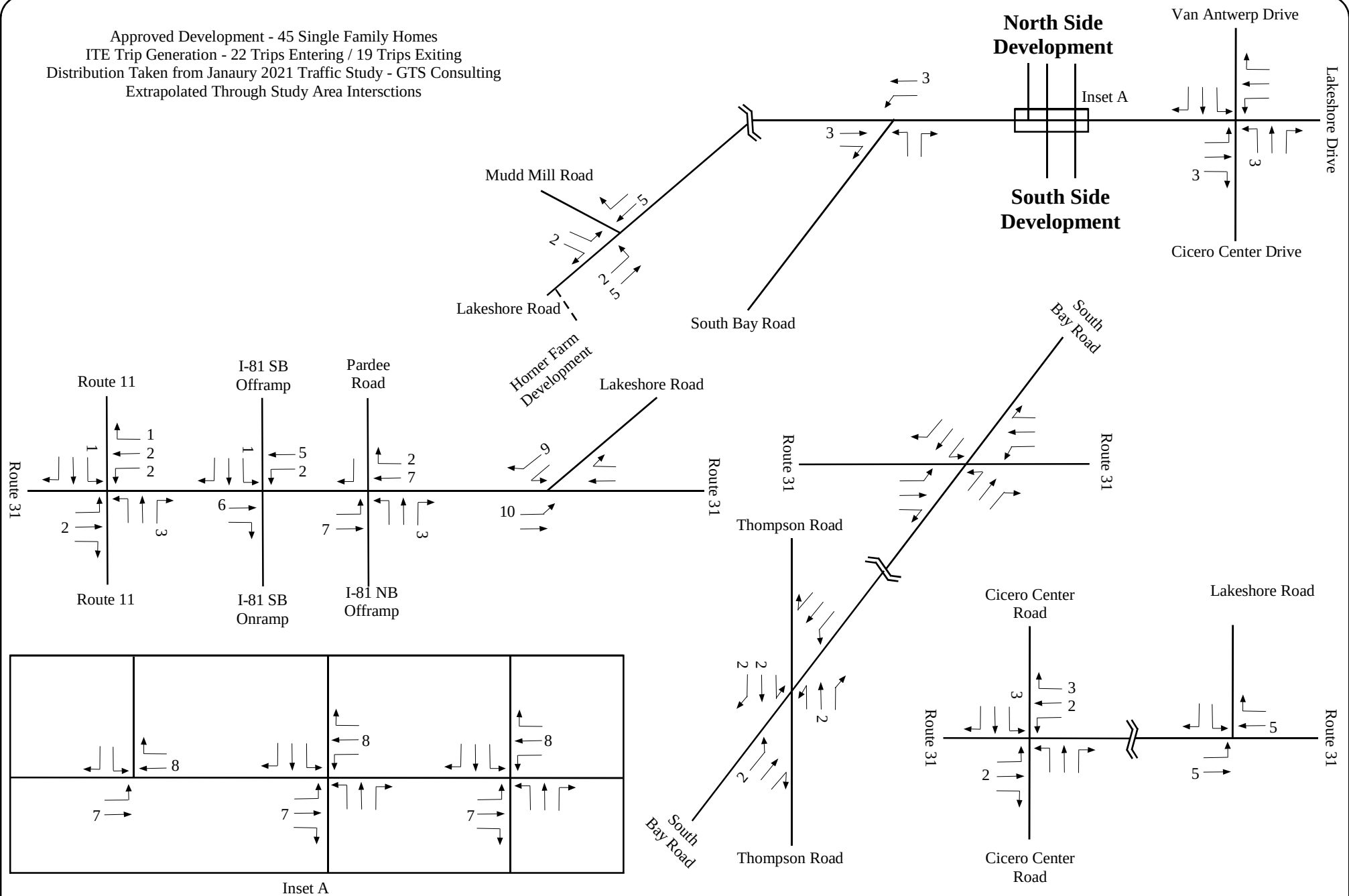
## Proposed Lakeshore Village Development - Lakeshore Road - Town of Cicero, NY

Approved Development Trips - Horner Farm Subdivision  
 Evening Peak Hour

Figure 14



Approved Development - 45 Single Family Homes  
 ITE Trip Generation - 22 Trips Entering / 19 Trips Exiting  
 Distribution Taken from January 2021 Traffic Study - GTS Consulting  
 Extrapolated Through Study Area Intersections



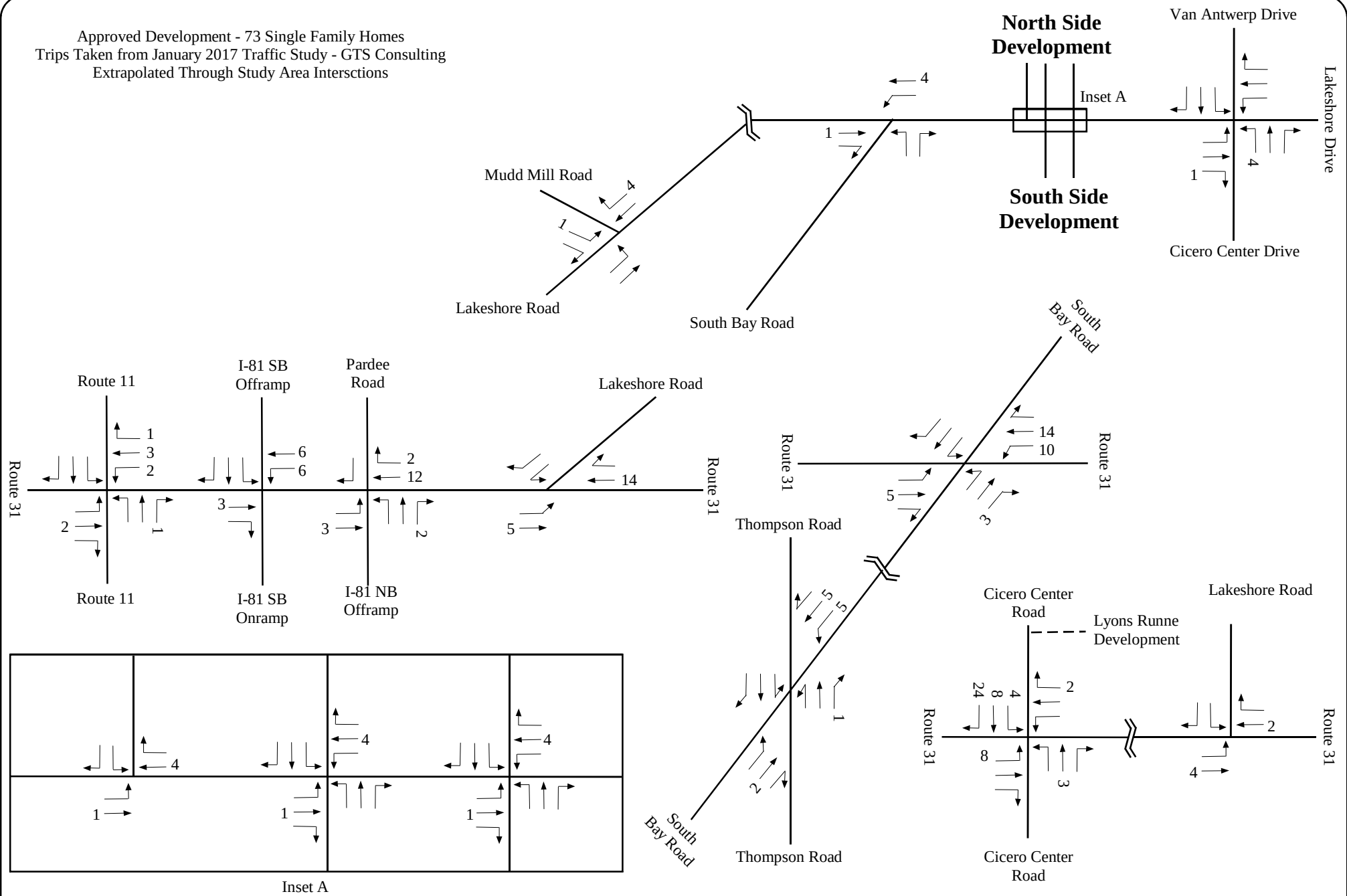
## Proposed Lakeshore Village Development - Lakeshore Road - Town of Cicero, NY

Approved Development Trips - Horner Farm Subdivision  
 Saturday Peak Hour

Figure 15



Approved Development - 73 Single Family Homes  
 Trips Taken from January 2017 Traffic Study - GTS Consulting  
 Extrapolated Through Study Area Intersections



## Proposed Lakeshore Village Development - Lakeshore Road - Town of Cicero, NY

Approved Development Trips - Lyons Runne - Section 3

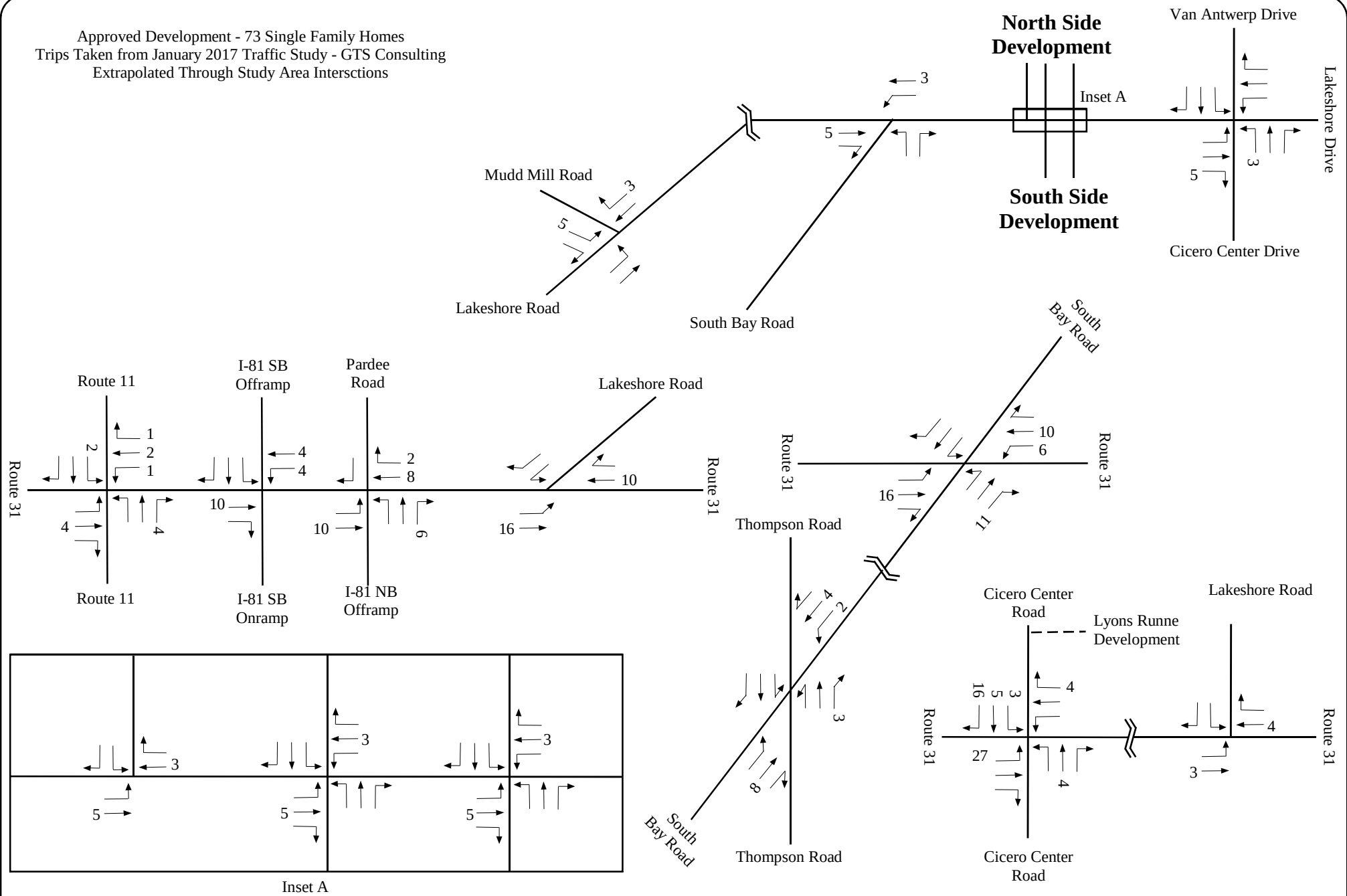
Morning Peak Hour

Figure 16





Approved Development - 73 Single Family Homes  
 Trips Taken from January 2017 Traffic Study - GTS Consulting  
 Extrapolated Through Study Area Intersections



## Proposed Lakeshore Village Development - Lakeshore Road - Town of Cicero, NY

Approved Development Trips - Lyons Runne - Section 3

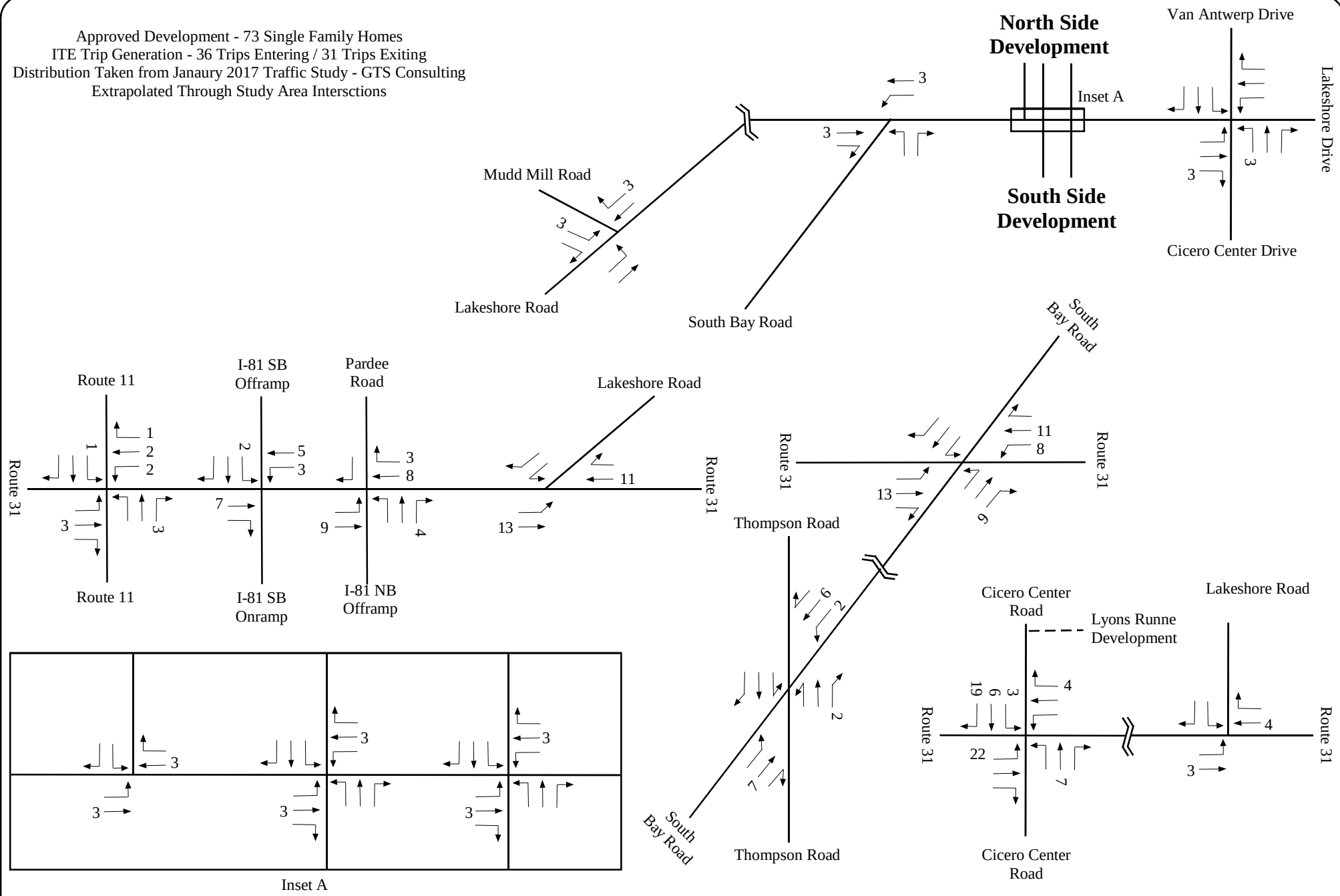
Evening Peak Hour

Figure 17





Approved Development - 73 Single Family Homes  
ITE Trip Generation - 36 Trips Entering / 31 Trips Exiting  
Distribution Taken from January 2017 Traffic Study - GTS Consulting  
Extrapolated Through Study Area Intersections



**Proposed Lakeshore Village Development - Lakeshore Road - Town of Cicero, NY**

Approved Development Trips - Lyons Runne - Section 3  
Saturday Peak Hour

**Figure 18**











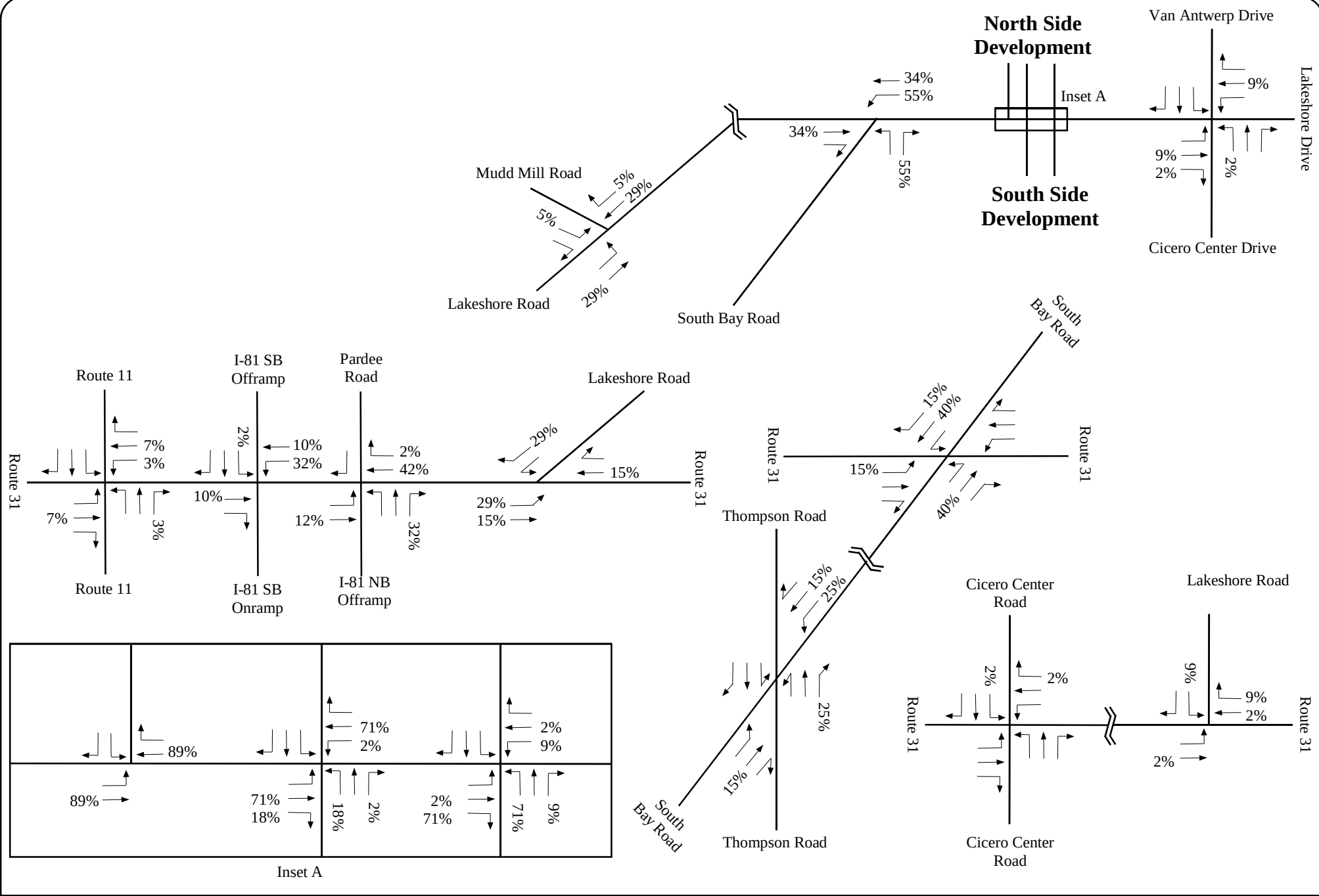












## Proposed Lakeshore Village Development - Lakeshore Road - Town of Cicero, NY

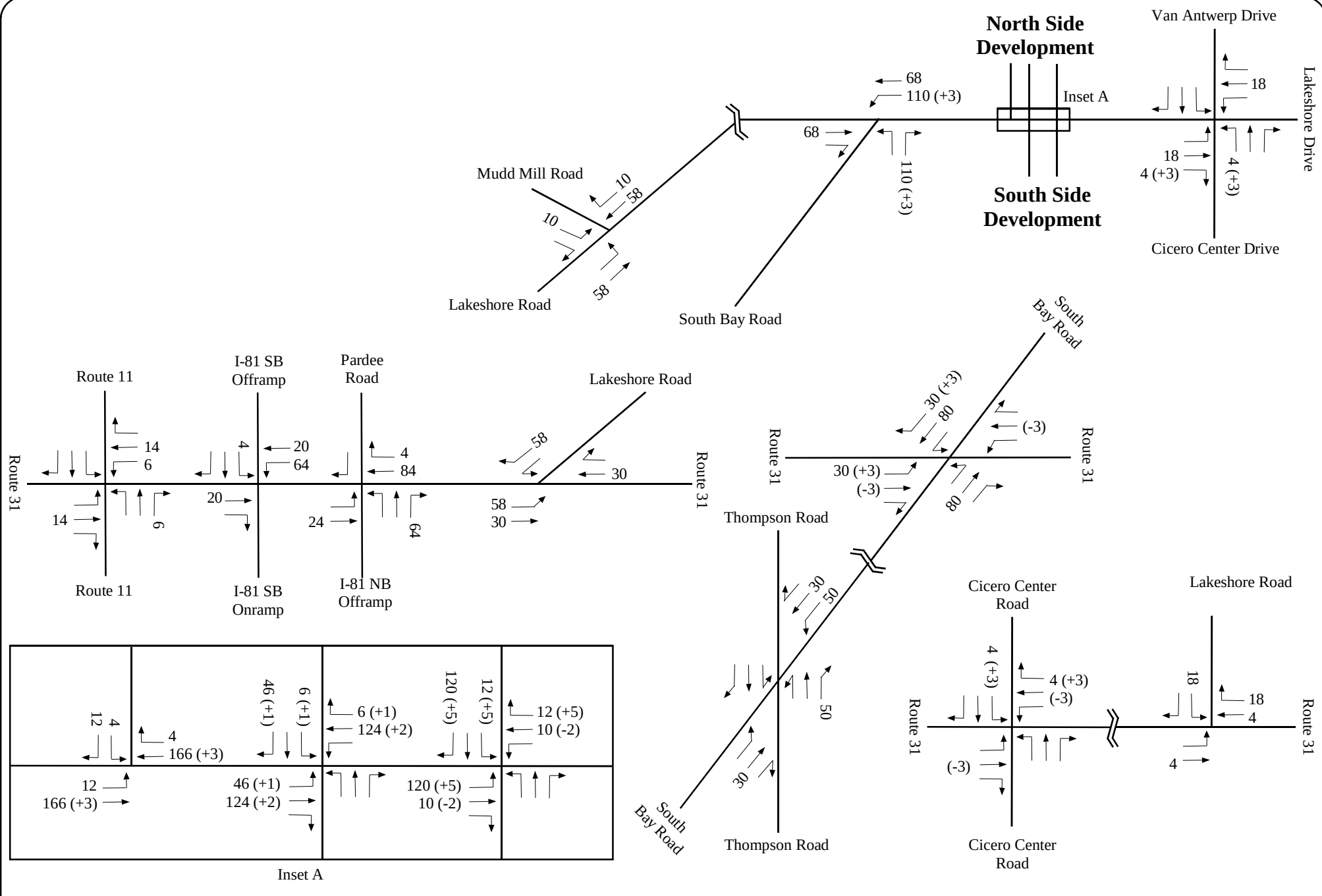
Arrival / Departure Distribution - South Side Development

New (Pass-by) Trip Percentage

Figure 23







## Proposed Lakeshore Village Development - Lakeshore Road - Town of Cicero, NY

Trips Generated - North Side Development - Weekday Morning Peak Hour

New (Pass-by) Trips

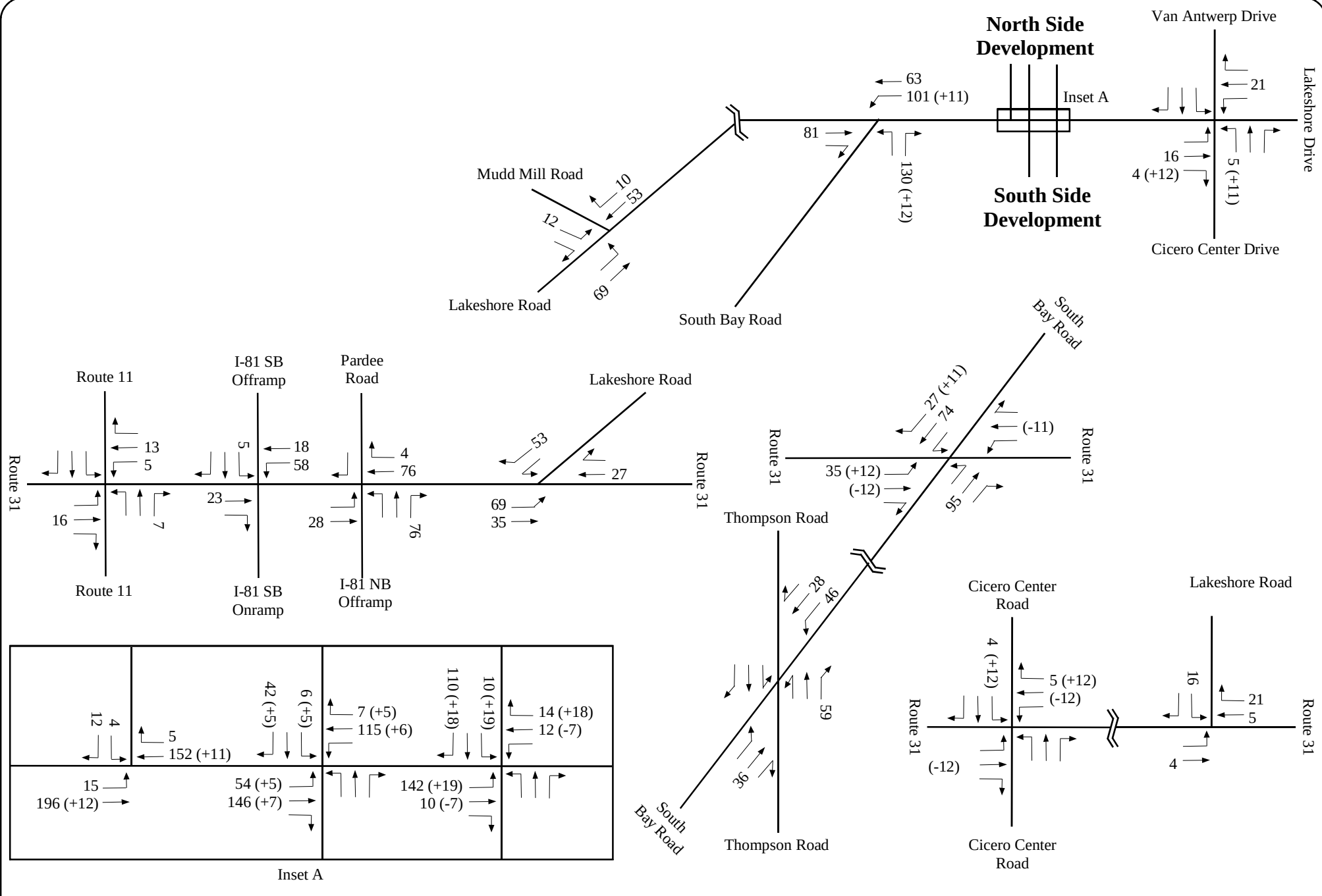
Figure 24











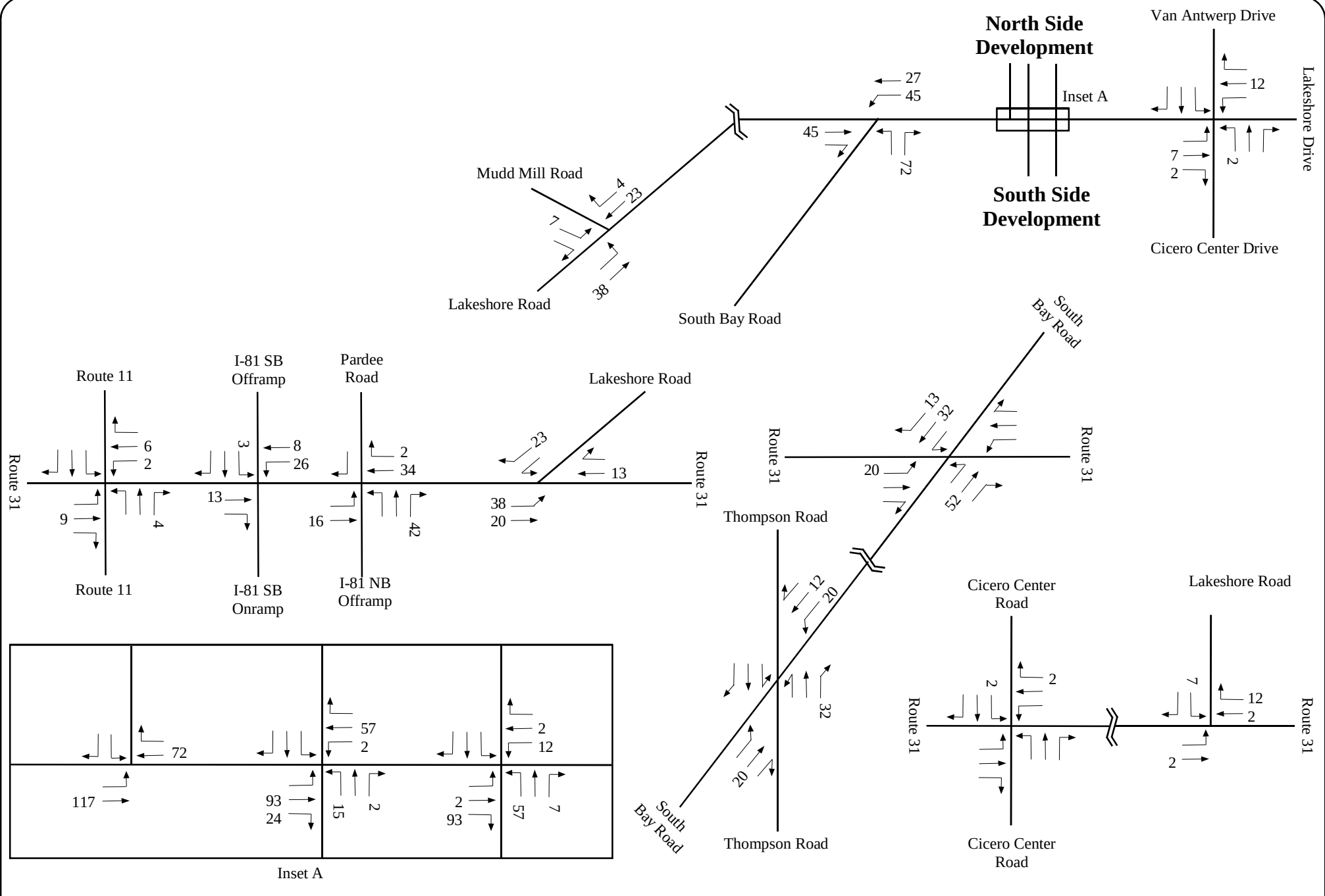
## Proposed Lakeshore Village Development - Lakeshore Road - Town of Cicero, NY

Trips Generated - North Side Development - Weekday Evening Peak Hour

New (Pass-by) Trips

Figure 26





## Proposed Lakeshore Village Development - Lakeshore Road - Town of Cicero, NY

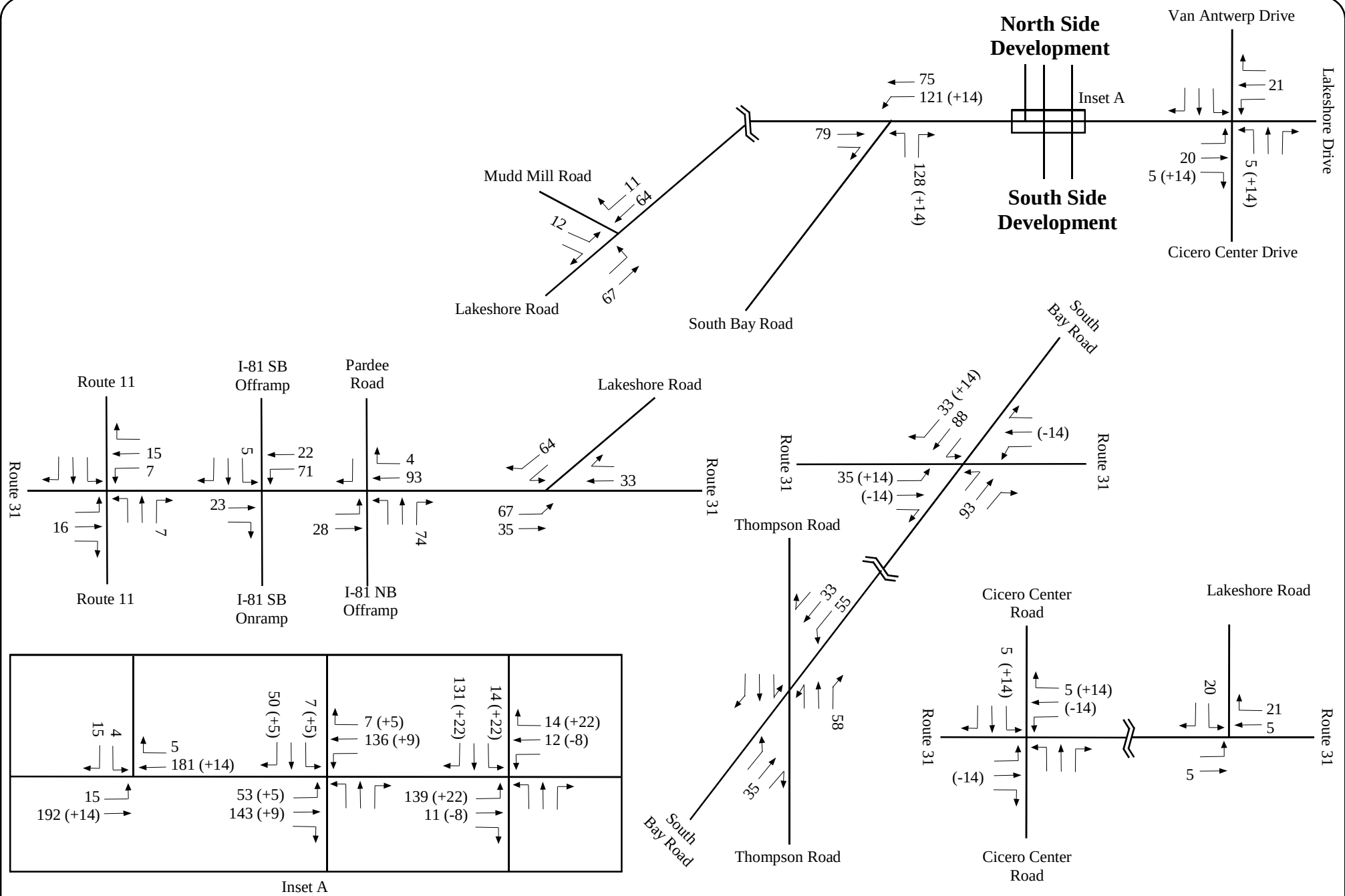
Trips Generated - South Side Development - Weekday Evening Peak Hour

New (Pass-by) Trips

Figure 27







## Proposed Lakeshore Village Development - Lakeshore Road - Town of Cicero, NY

Trips Generated - North Side Development - Saturday Midday Peak Hour

New (Pass-by) Trips

**Figure 28**



















## **APPENDIX D**

### Growth Calculations



# **Historical Traffic Growth Calculations** **Proposed Lakeshore Village Development, Lakeshore Road, Cicero, NY**

Historical Traffic Counts Taken from the NYSDOT Traffic Data Viewer Website

## **NYS Route 30 - Betwen I-81 Interchange and South Bay Road**

|                    |                    |                    |
|--------------------|--------------------|--------------------|
| 2019<br>12,779 veh | 2017<br>12,847 veh | 2009<br>13,028 veh |
| -0.3% per year     | -0.2% per year     |                    |
| -0.2% per year     |                    |                    |
|                    |                    |                    |

## **Lakeshore Road - Between Weaver Road and Maple Road**

|                   |                   |                   |
|-------------------|-------------------|-------------------|
| 2019<br>4,256 veh | 2016<br>4,612 veh | 2010<br>3,181 veh |
| -2.6% per year    | +7.5% per year    |                   |
| +3.7% per year    |                   |                   |
|                   |                   |                   |

## **South Bay Road - Between Thompson Road and Route 31**

|                   |                   |                   |
|-------------------|-------------------|-------------------|
| 2019<br>6,836 veh | 2016<br>9,007 veh | 2010<br>7,440 veh |
| -8.0% per year    | +2.3% per year    |                   |
| -0.9% per year    |                   |                   |
|                   |                   |                   |

**Use +0.5% Annual Growth for Longer Term Projections**



## **APPENDIX E**

### Trip Generation Calculations



**Proposed Lakeshore Village Development  
Lakeshore Road, Town of Cicero  
Trip Generation Estimate**

|                      |                        |                                                                          |            |             |
|----------------------|------------------------|--------------------------------------------------------------------------|------------|-------------|
| Proposed Development | North Side Development | 160 Units - Apartments - Mixed Use Buildings A-E                         | Jobs       |             |
|                      |                        | 20,000 SF - Office - Mixed Use Buildings A-E                             | 0          |             |
|                      |                        | 20,000 SF - Retail - Mixed Use Buildings A-E                             | 100        | 20/building |
|                      |                        | 20,000 SF - High Turnover Site Down Restaurant - Mixed Use Buildings A-E | 10         |             |
|                      |                        | 6,000 SF - High Turnover Site Down Restaurant - Restaurant E             | 0          |             |
|                      |                        | 106 Units - Apartments - Residential Buildings D-E                       | 5          |             |
|                      |                        | 30 Units - Condominiums - Main Building                                  | 10         |             |
|                      |                        | 36,000 SF - Club House - Main Building                                   | 30         |             |
|                      |                        | 500 Person - Conference Center - Main Building                           | 20         |             |
|                      |                        | 120 Room - Hotel - Main Building                                         | 0          |             |
|                      |                        | 116 Berths - Marina                                                      | 0          |             |
|                      | South Side Development | 123 Units - Apartments - Residential Buildings A-C                       | 0          |             |
|                      |                        | 163 Units - Single Family Homes (Single Family & Estate Lots)            | 0          |             |
|                      |                        | 20 Units - Townhouses                                                    | 0          |             |
|                      |                        |                                                                          | 0          |             |
|                      |                        | <b>Total Jobs</b>                                                        | <b>175</b> |             |

**ITE Trip Generation - 11th Edition**

Land Use 221 - Multifamily Housing (Mid-Rise) - Use for Apartments and Condominiums

|                    |                 |           |          |
|--------------------|-----------------|-----------|----------|
| Morning Peak Hour  | 0.37 Trips/Unit | 23% Enter | 77% Exit |
| Evening Peak Hour  | 0.39 Trips/Unit | 61% Enter | 39% Exit |
| Saturday Peak Hour | 0.39 Trips/Unit | 51% Enter | 49% Exit |

Land Use 710 - General Office Building - Use for Office Space

|                    |                     |           |          |
|--------------------|---------------------|-----------|----------|
| Morning Peak Hour  | 1.52 Trips/1,000 SF | 88% Enter | 12% Exit |
| Evening Peak Hour  | 1.44 Trips/1,000 SF | 17% Enter | 83% Exit |
| Saturday Peak Hour | 0.53 Trips/1,000 SF | 54% Enter | 46% Exit |

Land Use 822 - Strip Retail Plaza (<40K) - Use for Retail Space

|                    |                     |           |          |
|--------------------|---------------------|-----------|----------|
| Morning Peak Hour  | 2.36 Trips/1,000 SF | 60% Enter | 40% Exit |
| Evening Peak Hour  | 6.59 Trips/1,000 SF | 50% Enter | 50% Exit |
| Saturday Peak Hour | 6.57 Trips/1,000 SF | 51% Enter | 49% Exit |

Land Use 932 - High-Turnover (Sit-Down) Restaurant - Use for Restaurant Space

|                    |                      |           |          |
|--------------------|----------------------|-----------|----------|
| Morning Peak Hour  | 9.57 Trips/1,000 SF  | 55% Enter | 45% Exit |
| Evening Peak Hour  | 9.05 Trips/1,000 SF  | 61% Enter | 39% Exit |
| Saturday Peak Hour | 11.19 Trips/1,000 SF | 51% Enter | 49% Exit |

Land Use 310 - Hotel - Use For Hotel (Includes Conference Facilities)

|                    |                 |           |          |
|--------------------|-----------------|-----------|----------|
| Morning Peak Hour  | 0.46 Trips/Room | 56% Enter | 44% Exit |
| Evening Peak Hour  | 0.59 Trips/Room | 51% Enter | 49% Exit |
| Saturday Peak Hour | 0.72 Trips/Room | 56% Enter | 44% Exit |

Land Use 420 - Marina - Use For Marina

|                    |                  |           |          |
|--------------------|------------------|-----------|----------|
| Morning Peak Hour  | 0.07 Trips/Berth | 33% Enter | 67% Exit |
| Evening Peak Hour  | 0.21 Trips/Berth | 60% Enter | 40% Exit |
| Saturday Peak Hour | 0.22 Trips/Berth | 44% Enter | 56% Exit |

Land Use 210 - Single-Family Detached Housing - Use for Single Family Homes

|                    |                 |           |          |
|--------------------|-----------------|-----------|----------|
| Morning Peak Hour  | 0.70 Trips/Home | 26% Enter | 74% Exit |
| Evening Peak Hour  | 0.94 Trips/Home | 63% Enter | 37% Exit |
| Saturday Peak Hour | 0.92 Trips/Home | 54% Enter | 46% Exit |

Land Use 215 - Single-Family Attached Housing - Use for Townhouses

|                    |                 |           |          |
|--------------------|-----------------|-----------|----------|
| Morning Peak Hour  | 0.48 Trips/Home | 31% Enter | 69% Exit |
| Evening Peak Hour  | 0.57 Trips/Home | 57% Enter | 43% Exit |
| Saturday Peak Hour | 0.57 Trips/Home | 48% Enter | 52% Exit |

The Club House is an amenity for the residential uses, not an independent traffic generator.

Assume 15% multi-use credit for north side development

Pass-by Credits - ITE Trip Generation Handbook, 3rd Edition

Land Use 820 - PM - 34%, Sat - 26%

Land Use 932 - PM - 43%

Assume 10% Pass-by AM, 30% Pass-by PM/Sat for Retail/Restaurant Uses, taken after Multi-use credit to avoid compounding credits

**Trip Generation Estimate - North Side Development**

| Development                                     | Size       | Morning Peak Hour |            |            | Evening Peak Hour |            |            | Saturday Peak Hour |            |            |
|-------------------------------------------------|------------|-------------------|------------|------------|-------------------|------------|------------|--------------------|------------|------------|
|                                                 |            | Total Trips       | Entering   | Exiting    | Total Trips       | Entering   | Exiting    | Total Trips        | Entering   | Exiting    |
| Apartments/Condominiums                         | 306 Units  | 110               | 25         | 85         | 115               | 70         | 45         | 115                | 58         | 57         |
| Office                                          | 20,000 SF  | 30                | 26         | 4          | 29                | 5          | 24         | 11                 | 6          | 5          |
| Retail                                          | 20,000 SF  | 47                | 28         | 19         | 132               | 66         | 66         | 131                | 67         | 64         |
| Restaurants                                     | 26,000 SF  | 249               | 137        | 112        | 235               | 143        | 92         | 291                | 148        | 143        |
| Hotel                                           | 120 Rooms  | 55                | 31         | 24         | 71                | 36         | 35         | 86                 | 48         | 38         |
| Marina                                          | 116 Berths | 8                 | 3          | 5          | 24                | 14         | 10         | 26                 | 11         | 15         |
| <b>Total Individual Trips Generated</b>         |            | <b>499</b>        | <b>250</b> | <b>249</b> | <b>606</b>        | <b>334</b> | <b>272</b> | <b>660</b>         | <b>338</b> | <b>322</b> |
| Multi-Use Credit - 15%                          |            | -75               | -38        | -37        | -91               | -50        | -41        | -99                | -51        | -48        |
| <b>Total Trips Generated</b>                    |            | <b>424</b>        | <b>212</b> | <b>212</b> | <b>515</b>        | <b>284</b> | <b>231</b> | <b>561</b>         | <b>287</b> | <b>274</b> |
| <b>Commercial Passby - AM 10%, PM/Sat - 30%</b> |            | <b>-24</b>        | <b>-12</b> | <b>-12</b> | <b>-94</b>        | <b>-47</b> | <b>-47</b> | <b>-108</b>        | <b>-54</b> | <b>-54</b> |
| <b>Total New Trips Generated</b>                |            | <b>400</b>        | <b>200</b> | <b>200</b> | <b>421</b>        | <b>237</b> | <b>184</b> | <b>454</b>         | <b>233</b> | <b>221</b> |

**Trip Generation Estimate - South Side Development**

| Development                      | Size      | Morning Peak Hour |           |            | Evening Peak Hour |            |           | Saturday Peak Hour |            |           |
|----------------------------------|-----------|-------------------|-----------|------------|-------------------|------------|-----------|--------------------|------------|-----------|
|                                  |           | Total Trips       | Entering  | Exiting    | Total Trips       | Entering   | Exiting   | Total Trips        | Entering   | Exiting   |
| Apartments                       | 123 Units | 46                | 10        | 36         | 48                | 29         | 19        | 48                 | 24         | 24        |
| Single Family Homes              | 163 Units | 114               | 30        | 84         | 153               | 96         | 57        | 150                | 81         | 69        |
| Townhouses                       | 20 Units  | 10                | 3         | 7          | 11                | 6          | 5         | 11                 | 5          | 6         |
| <b>Total New Trips Generated</b> |           | <b>170</b>        | <b>43</b> | <b>127</b> | <b>212</b>        | <b>131</b> | <b>81</b> | <b>209</b>         | <b>110</b> | <b>99</b> |



## **APPENDIX F**

### Level of Service & Queue Summary



**Proposed Lakeshore Village Development – Lakeshore Road, Town of Cicero, NY**  
**Intersection Level of Service Summary**  
**Weekday Morning Peak Hour**

| <b>Intersection</b>                                 | <b>2022<br/>Existing</b> | <b>2032<br/>Background</b> | <b>2032<br/>Build</b> | <b>2032 Build<br/>w/ Mitigation</b> |
|-----------------------------------------------------|--------------------------|----------------------------|-----------------------|-------------------------------------|
| <b>NYS Route 31 @<br/>NYS Route 11</b>              | <b>C(24)</b>             | <b>C(26)</b>               | <b>C(27)</b>          | <b>C(30)</b>                        |
| EB Left                                             | B(12)                    | B(12)                      | B(12)                 | B(12)                               |
| EB Through/Right                                    | C(29)                    | C(31)                      | C(32)                 | C(33)                               |
| WB Left                                             | C(21)                    | C(27)                      | C(33)                 | D(36)                               |
| WB Through/Right                                    | A(7)                     | A(7)                       | A(7)                  | B(17)                               |
| NB Left                                             | C(32)                    | C(33)                      | C(33)                 | C(32)                               |
| NB Through                                          | E(59)                    | E(60)                      | E(60)                 | D(53)                               |
| NB Right                                            | B(15)                    | B(17)                      | B(17)                 | B(16)                               |
| SB Left                                             | D(38)                    | D(40)                      | D(40)                 | D(44)                               |
| SB Through/Right                                    | D(38)                    | D(41)                      | D(41)                 | D(42)                               |
| <b>NYS Route 31 @<br/>I-81 SB Ramps</b>             | <b>D(54)</b>             | <b>E(68)</b>               | <b>E(72)</b>          | <b>E(64)</b>                        |
| EB Through/Right                                    | E(65)                    | F(99)                      | F(111)                | F(85)                               |
| WB Left                                             | F(90)                    | F(92)                      | F(93)                 | F(99)                               |
| WB Through                                          | A(5)                     | A(4)                       | A(3)                  | A(3)                                |
| SB Left/Through                                     | E(76)                    | F(85)                      | F(87)                 | F(87)                               |
| SB Right                                            | B(12)                    | B(12)                      | B(12)                 | B(12)                               |
| <b>NYS Route 31 @<br/>I-81 NB Ramps / Pardee Rd</b> | <b>C(22)</b>             | <b>C(25)</b>               | <b>C(35)</b>          | <b>B(20)</b>                        |
| EB Left                                             | B(17)                    | C(22)                      | C(27)                 | C(25)                               |
| EB Through                                          | B(15)                    | B(14)                      | B(16)                 | A(5)                                |
| WB Through/Right                                    | B(19)                    | C(24)                      | D(38)                 | B(16)                               |
| NB Left                                             | D(46)                    | D(43)                      | D(38)                 | D(52)                               |
| NB Through                                          | D(36)                    | C(34)                      | C(32)                 | D(40)                               |
| NB Right                                            | D(38)                    | D(45)                      | E(61)                 | C(23)                               |
| SB Right                                            | B(11)                    | B(15)                      | B(15)                 | D(46)                               |
| <b>NYS Route 31 @<br/>Lakeshore Road</b>            |                          |                            |                       | <b>C(32)</b>                        |
| EB Left                                             | b(11)                    | b(11)                      | b(12)                 | B(11)                               |
| EB Through                                          | a(0)                     | a(0)                       | a(0)                  | A(1)                                |
| WB Through/Right                                    | a(0)                     | a(0)                       | a(0)                  | D(49)                               |
| SB Left/Right                                       | f(214)                   | f(365)                     | f(550)                | E(70)                               |
| <b>NYS Route 31 @<br/>South Bay Road</b>            | <b>C(21)</b>             | <b>C(30)</b>               | <b>D(47)</b>          | <b>C(33)</b>                        |
| EB Left                                             | -                        | B(15)                      | B(16)                 | C(21)                               |
| EB (Left)/Through/Right                             | B(14)                    | D(36)                      | D(38)                 | D(45)                               |
| WB Left                                             | -                        | B(18)                      | B(20)                 | C(28)                               |
| WB (Left)/Through/Right                             | B(20)                    | C(24)                      | C(30)                 | C(34)                               |
| NB Left                                             | -                        | B(19)                      | C(21)                 | B(18)                               |
| NB (Left)/Through/(Right)                           | C(23)                    | B(19)                      | C(24)                 | B(19)                               |
| NB Right                                            | -                        | -                          | -                     | A(1)                                |
| SB Left                                             | -                        | B(17)                      | B(17)                 | B(13)                               |
| SB (Left)/Through/Right                             | C(25)                    | D(42)                      | F(87)                 | D(41)                               |
| <b>NYS Route 31 @<br/>Cicero Center Road</b>        | <b>A(6)</b>              | <b>A(8)</b>                | <b>A(8)</b>           | <b>A(8)</b>                         |
| EB Left/Through/Right                               | A(4)                     | A(6)                       | A(6)                  | A(6)                                |
| WB Left/Through/Right                               | A(5)                     | A(6)                       | A(6)                  | A(6)                                |
| NB Left/Through/Right                               | B(14)                    | B(13)                      | B(13)                 | B(13)                               |
| SB Left/Through/Right                               | A(10)                    | B(12)                      | B(13)                 | B(13)                               |
| <b>NYS Route 31 @<br/>Lakeshore Road</b>            |                          |                            |                       |                                     |
| EB Left/Through                                     | a(1)                     | a(1)                       | a(1)                  | a(1)                                |
| WB Through/Right                                    | a(0)                     | a(0)                       | a(0)                  | a(0)                                |
| SB Left/Right                                       | b(12)                    | b(13)                      | b(15)                 | b(15)                               |



**Proposed Lakeshore Village Development – Lakeshore Road, Town of Cicero, NY**  
**Intersection Level of Service Summary**  
**Weekday Morning Peak Hour**

| <b>Intersection</b>                                           | <b>2022<br/>Existing</b> | <b>2032<br/>Background</b> | <b>2032<br/>Build</b> | <b>2032 Build<br/>w/ Mitigation</b> |
|---------------------------------------------------------------|--------------------------|----------------------------|-----------------------|-------------------------------------|
| <b>South Bay Road @<br/>Thompson Road</b>                     | <b>C(21)</b>             | <b>C(23)</b>               | <b>C(32)</b>          | <b>C(22)</b>                        |
| EB Left                                                       | C(23)                    | C(27)                      | C(33)                 | B(15)                               |
| EB Through/Right                                              | C(34)                    | C(34)                      | C(35)                 | C(34)                               |
| WB Left                                                       | C(23)                    | C(27)                      | E(75)                 | C(23)                               |
| WB Through/Right                                              | C(33)                    | C(34)                      | D(37)                 | C(34)                               |
| NB Left/Through                                               | B(20)                    | C(21)                      | C(22)                 | C(28)                               |
| NB Right                                                      | A(2)                     | A(2)                       | A(3)                  | A(3)                                |
| SB Left/Through                                               | B(19)                    | C(21)                      | C(21)                 | C(28)                               |
| SB Right                                                      | A(2)                     | A(2)                       | A(2)                  | A(2)                                |
| <b>Lakeshore Road @<br/>Mudd Mill Road</b>                    |                          |                            |                       |                                     |
| EB Left/Through                                               | a(1)                     | a(1)                       | a(1)                  | a(1)                                |
| WB Through/Right                                              | a(0)                     | a(0)                       | a(0)                  | a(0)                                |
| SB Left/Right                                                 | b(11)                    | b(12)                      | c(16)                 | c(16)                               |
| <b>Lakeshore Road @<br/>South Bay Road</b>                    |                          |                            |                       |                                     |
| EB Through/Right                                              | a(0)                     | a(0)                       | a(0)                  | a(0)                                |
| WB Left/Through                                               | a(1)                     | a(4)                       | a(5)                  | a(5)                                |
| NB Left/Right                                                 | a(9)                     | a(10)                      | b(12)                 | b(12)                               |
| <b>Lake Shore Road @ Cicero<br/>Center Road / Van Antwerp</b> |                          |                            |                       |                                     |
| EB Left/Through/Right                                         | a(1)                     | a(1)                       | a(1)                  | a(1)                                |
| WB Left/Through/Right                                         | a(1)                     | a(1)                       | a(1)                  | a(1)                                |
| NB Left/Through/Right                                         | b(11)                    | b(11)                      | b(13)                 | b(13)                               |
| SB Left/Through/Right                                         | a(10)                    | b(11)                      | b(11)                 | b(11)                               |
| <b>Lake Shore Road @<br/>East Site Access</b>                 |                          |                            |                       |                                     |
| EB Left                                                       | -                        | -                          | -                     | a(8)                                |
| EB (Left)/Through/Right                                       | -                        | -                          | a(3)                  | a(0)                                |
| WB Left                                                       | -                        | -                          | -                     | a(8)                                |
| WB (Left)/Through/Right                                       | -                        | -                          | a(1)                  | a(0)                                |
| NB Left/Through/Right                                         | -                        | -                          | e(42)                 | e(40)                               |
| SB Left/Through/Right                                         | -                        | -                          | b(12)                 | b(12)                               |
| <b>Lake Shore Road @<br/>Middle Site Access</b>               |                          |                            |                       |                                     |
| EB Left                                                       | -                        | -                          | -                     | a(9)                                |
| EB (Left)/Through/Right                                       | -                        | -                          | a(1)                  | a(0)                                |
| WB Left                                                       | -                        | -                          | -                     | a(8)                                |
| WB (Left)/Through/Right                                       | -                        | -                          | a(0)                  | a(0)                                |
| NB Left/Through/Right                                         | -                        | -                          | d(28)                 | d(27)                               |
| SB Left/Through/Right                                         | -                        | -                          | b(14)                 | b(14)                               |
| <b>Lakeshore Road @<br/>West Site Access</b>                  |                          |                            |                       |                                     |
| EB Left/Through                                               | -                        | -                          | a(1)                  | a(1)                                |
| WB Through/Right                                              | -                        | -                          | a(0)                  | a(0)                                |
| SB Left/Right                                                 | -                        | -                          | b(14)                 | b(14)                               |

A(9) – Signalized Level of Service (Average Delay per Vehicle in Seconds) – Synchro  
a(9) – Unsignalized Level of Service (Average Delay per Vehicle in Seconds) – Synchro



**Proposed Lakeshore Village Development – Lakeshore Road, Town of Cicero, NY**  
**Intersection Level of Service Summary**  
**Weekday Evening Peak Hour**

| <b>Intersection</b>                                 | <b>2022<br/>Existing</b> | <b>2032<br/>Background</b> | <b>2032<br/>Build</b> | <b>2032 Build<br/>w/ Mitigation</b> |
|-----------------------------------------------------|--------------------------|----------------------------|-----------------------|-------------------------------------|
| <b>NYS Route 31 @<br/>NYS Route 11</b>              | <b>D(42)</b>             | <b>D(49)</b>               | <b>D(51)</b>          | <b>D(47)</b>                        |
| EB Left                                             | C(22)                    | C(22)                      | C(22)                 | C(21)                               |
| EB Through/Right                                    | E(56)                    | E(58)                      | E(59)                 | E(75)                               |
| WB Left                                             | E(57)                    | F(85)                      | F(95)                 | E(69)                               |
| WB Through/Right                                    | C(28)                    | C(29)                      | C(29)                 | C(21)                               |
| NB Left                                             | C(31)                    | C(32)                      | C(32)                 | C(29)                               |
| NB Through                                          | E(67)                    | E(69)                      | E(70)                 | E(77)                               |
| NB Right                                            | C(24)                    | C(29)                      | C(31)                 | C(26)                               |
| SB Left                                             | D(53)                    | E(68)                      | E(69)                 | E(68)                               |
| SB Through/Right                                    | D(37)                    | D(38)                      | D(38)                 | C(31)                               |
| <b>NYS Route 31 @<br/>I-81 SB Ramps</b>             | <b>C(29)</b>             | <b>D(50)</b>               | <b>E(57)</b>          | <b>C(35)</b>                        |
| EB Through/Right                                    | C(24)                    | E(72)                      | F(91)                 | D(43)                               |
| WB Left                                             | E(62)                    | F(86)                      | F(88)                 | E(72)                               |
| WB Through                                          | A(2)                     | A(2)                       | A(3)                  | A(4)                                |
| SB Left/Through                                     | F(92)                    | F(130)                     | F(85)                 | F(85)                               |
| SB Right                                            | B(12)                    | B(13)                      | B(15)                 | B(15)                               |
| <b>NYS Route 31 @<br/>I-81 NB Ramps / Pardee Rd</b> | <b>E(72)</b>             | <b>F(108)</b>              | <b>F(147)</b>         | <b>E(56)</b>                        |
| EB Left                                             | D(49)                    | D(47)                      | D(45)                 | F(150)                              |
| EB Through                                          | D(42)                    | E(73)                      | F(81)                 | A(5)                                |
| WB Through/Right                                    | F(106)                   | F(156)                     | F(203)                | E(58)                               |
| NB Left                                             | D(38)                    | D(39)                      | D(41)                 | E(61)                               |
| NB Through                                          | C(27)                    | C(27)                      | C(27)                 | E(78)                               |
| NB Right                                            | F(110)                   | F(172)                     | F(273)                | E(79)                               |
| SB Right                                            | B(14)                    | B(16)                      | B(17)                 | D(39)                               |
| <b>NYS Route 31 @<br/>Lakeshore Road</b>            |                          |                            |                       | <b>D(39)</b>                        |
| EB Left                                             | c(23)                    | e(40)                      | e(40)                 | E(77)                               |
| EB Through                                          | a(0)                     | a(0)                       | a(0)                  | A(1)                                |
| WB Through/Right                                    | a(0)                     | a(0)                       | a(0)                  | D(53)                               |
| SB Left/Right                                       | f(133)                   | f(240)                     | f(400)                | D(36)                               |
| <b>NYS Route 31 @<br/>South Bay Road</b>            | <b>E(63)</b>             | <b>D(46)</b>               | <b>E(65)</b>          | <b>D(39)</b>                        |
| EB Left                                             | -                        | B(14)                      | B(20)                 | B(17)                               |
| EB (Left)/Through/Right                             | C(28)                    | D(54)                      | E(65)                 | D(52)                               |
| WB Left                                             | -                        | D(38)                      | D(44)                 | D(39)                               |
| WB (Left)/Through/Right                             | D(45)                    | C(30)                      | C(35)                 | C(32)                               |
| NB Left                                             | -                        | C(21)                      | C(21)                 | C(24)                               |
| NB (Left)/Through/(Right)                           | F(127)                   | E(64)                      | F(109)                | D(43)                               |
| NB Right                                            | -                        | -                          | -                     | B(13)                               |
| SB Left                                             | -                        | B(19)                      | B(18)                 | B(20)                               |
| SB (Left)/Through/Right                             | B(19)                    | C(34)                      | D(42)                 | D(49)                               |
| <b>NYS Route 31 @<br/>Cicero Center Road</b>        | <b>A(7)</b>              | <b>B(11)</b>               | <b>B(11)</b>          | <b>B(11)</b>                        |
| EB Left/Through/Right                               | A(7)                     | B(12)                      | B(12)                 | B(12)                               |
| WB Left/Through/Right                               | A(5)                     | A(7)                       | A(7)                  | A(7)                                |
| NB Left/Through/Right                               | B(15)                    | B(16)                      | B(16)                 | B(16)                               |
| SB Left/Through/Right                               | B(11)                    | B(12)                      | B(14)                 | B(14)                               |
| <b>NYS Route 31 @<br/>Lakeshore Road</b>            |                          |                            |                       |                                     |
| EB Left/Through                                     | a(1)                     | a(1)                       | a(1)                  | a(1)                                |
| WB Through/Right                                    | a(0)                     | a(0)                       | a(0)                  | a(0)                                |
| SB Left/Right                                       | c(21)                    | d(25)                      | d(34)                 | d(34)                               |



**Proposed Lakeshore Village Development – Lakeshore Road, Town of Cicero, NY**  
**Intersection Level of Service Summary**  
**Weekday Evening Peak Hour**

| <b>Intersection</b>                                       | <b>2022 Existing</b> | <b>2032 Background</b> | <b>2032 Build</b> | <b>2032 Build w/ Mitigation</b> |
|-----------------------------------------------------------|----------------------|------------------------|-------------------|---------------------------------|
| <b>South Bay Road @ Thompson Road</b>                     | <b>C(29)</b>         | <b>D(37)</b>           | <b>D(45)</b>      | <b>C(30)</b>                    |
| EB Left                                                   | E(56)                | F(102)                 | F(132)            | D(40)                           |
| EB Through/Right                                          | D(40)                | D(43)                  | D(53)             | C(33)                           |
| WB Left                                                   | B(14)                | B(16)                  | C(35)             | B(18)                           |
| WB Through/Right                                          | D(36)                | D(39)                  | D(42)             | D(46)                           |
| NB Left/Through                                           | C(25)                | C(27)                  | C(28)             | D(41)                           |
| NB Right                                                  | A(4)                 | A(5)                   | A(9)              | A(9)                            |
| SB Left/Through                                           | C(21)                | C(21)                  | C(22)             | C(27)                           |
| SB Right                                                  | A(3)                 | A(5)                   | A(6)              | A(6)                            |
| <b>Lakeshore Road @ Mudd Mill Road</b>                    |                      |                        |                   |                                 |
| EB Left/Through                                           | a(2)                 | a(2)                   | a(2)              | a(1)                            |
| WB Through/Right                                          | a(0)                 | a(0)                   | a(0)              | a(0)                            |
| SB Left/Right                                             | b(14)                | c(20)                  | e(37)             | e(37)                           |
| <b>Lakeshore Road @ South Bay Road</b>                    |                      |                        |                   |                                 |
| EB Through/Right                                          | a(0)                 | a(0)                   | a(0)              | a(0)                            |
| WB Left/Through                                           | a(3)                 | a(3)                   | a(5)              | a(5)                            |
| NB Left/Right                                             | b(11)                | b(12)                  | d(32)             | d(32)                           |
| <b>Lake Shore Road @ Cicero Center Road / Van Antwerp</b> |                      |                        |                   |                                 |
| EB Left/Through/Right                                     | a(1)                 | a(1)                   | a(1)              | a(1)                            |
| WB Left/Through/Right                                     | a(1)                 | a(1)                   | a(1)              | a(1)                            |
| NB Left/Through/Right                                     | c(16)                | c(17)                  | c(21)             | c(21)                           |
| SB Left/Through/Right                                     | b(15)                | b(13)                  | b(14)             | b(14)                           |
| <b>Lake Shore Road @ East Site Access</b>                 |                      |                        |                   |                                 |
| EB Left                                                   | -                    | -                      | -                 | a(9)                            |
| EB (Left)/Through/Right                                   | -                    | -                      | a(2)              | a(0)                            |
| WB Left                                                   | -                    | -                      | -                 | a(8)                            |
| WB (Left)/Through/Right                                   | -                    | -                      | a(1)              | a(0)                            |
| NB Left/Through/Right                                     | -                    | -                      | f(106)            | f(92)                           |
| SB Left/Through/Right                                     | -                    | -                      | c(23)             | c(22)                           |
| <b>Lake Shore Road @ Middle Site Access</b>               |                      |                        |                   |                                 |
| EB Left                                                   | -                    | -                      | -                 | a(9)                            |
| EB (Left)/Through/Right                                   | -                    | -                      | a(1)              | a(0)                            |
| WB Left                                                   | -                    | -                      | -                 | a(9)                            |
| WB (Left)/Through/Right                                   | -                    | -                      | a(0)              | a(0)                            |
| NB Left/Through/Right                                     | -                    | -                      | e(50)             | e(47)                           |
| SB Left/Through/Right                                     | -                    | -                      | c(20)             | c(20)                           |
| <b>Lakeshore Road @ West Site Access</b>                  |                      |                        |                   |                                 |
| EB Left/Through                                           | -                    | -                      | a(1)              | a(1)                            |
| WB Through/Right                                          | -                    | -                      | a(0)              | a(0)                            |
| SB Left/Right                                             | -                    | -                      | c(18)             | c(18)                           |

A(9) – Signalized Level of Service (Average Delay per Vehicle in Seconds) – Synchro  
a(9) – Unsignalized Level of Service (Average Delay per Vehicle in Seconds) – Synchro



**Proposed Lakeshore Village Development – Lakeshore Road, Town of Cicero, NY**  
**Intersection Level of Service Summary**  
**Weekday Saturday Peak Hour**

| <b>Intersection</b>                                 | <b>2022<br/>Existing</b> | <b>2032<br/>Background</b> | <b>2032<br/>Build</b> | <b>2032 Build<br/>w/ Mitigation</b> |
|-----------------------------------------------------|--------------------------|----------------------------|-----------------------|-------------------------------------|
| <b>NYS Route 31 @<br/>NYS Route 11</b>              | <b>D(48)</b>             | <b>E(56)</b>               | <b>E(58)</b>          | <b>D(51)</b>                        |
| EB Left                                             | C(21)                    | C(22)                      | C(22)                 | B(19)                               |
| EB Through/Right                                    | E(59)                    | E(62)                      | E(64)                 | E(65)                               |
| WB Left                                             | F(86)                    | F(121)                     | F(132)                | F(92)                               |
| WB Through/Right                                    | C(26)                    | C(28)                      | C(28)                 | B(20)                               |
| NB Left                                             | C(33)                    | C(34)                      | C(34)                 | C(35)                               |
| NB Through                                          | E(68)                    | E(70)                      | E(71)                 | E(80)                               |
| NB Right                                            | C(25)                    | C(30)                      | C(30)                 | C(26)                               |
| SB Left                                             | D(43)                    | D(49)                      | D(50)                 | E(70)                               |
| SB Through/Right                                    | D(45)                    | D(45)                      | D(46)                 | D(42)                               |
| <b>NYS Route 31 @<br/>I-81 SB Ramps</b>             | <b>C(26)</b>             | <b>D(43)</b>               | <b>E(59)</b>          | <b>C(35)</b>                        |
| EB Through/Right                                    | D(35)                    | E(71)                      | F(91)                 | D(41)                               |
| WB Left                                             | D(36)                    | D(53)                      | F(94)                 | E(77)                               |
| WB Through                                          | A(5)                     | A(6)                       | A(6)                  | A(4)                                |
| SB Left/Through                                     | E(59)                    | E(62)                      | E(77)                 | E(80)                               |
| SB Right                                            | B(16)                    | C(23)                      | C(28)                 | C(29)                               |
| <b>NYS Route 31 @<br/>I-81 NB Ramps / Pardee Rd</b> | <b>C(28)</b>             | <b>C(33)</b>               | <b>E(64)</b>          | <b>C(24)</b>                        |
| EB Left                                             | D(36)                    | D(42)                      | D(36)                 | D(54)                               |
| EB Through                                          | C(21)                    | C(26)                      | D(39)                 | A(3)                                |
| WB Through/Right                                    | C(28)                    | D(37)                      | F(104)                | C(24)                               |
| NB Left                                             | D(43)                    | D(39)                      | C(32)                 | E(79)                               |
| NB Through                                          | C(32)                    | C(30)                      | C(26)                 | C(33)                               |
| NB Right                                            | D(42)                    | D(44)                      | D(51)                 | C(33)                               |
| SB Right                                            | A(1)                     | A(2)                       | A(2)                  | C(22)                               |
| <b>NYS Route 31 @<br/>Lakeshore Road</b>            |                          |                            |                       | <b>C(31)</b>                        |
| EB Left                                             | c(16)                    | c(20)                      | d(34)                 | D(47)                               |
| EB Through                                          | a(0)                     | a(0)                       | a(0)                  | a(1)                                |
| WB Through/Right                                    | a(0)                     | a(0)                       | a(0)                  | C(34)                               |
| SB Left/Right                                       | f(163)                   | f(278)                     | f(473)                | E(59)                               |
| <b>NYS Route 31 @<br/>South Bay Road</b>            | <b>D(47)</b>             | <b>D(35)</b>               | <b>E(58)</b>          | <b>D(44)</b>                        |
| EB Left                                             | -                        | B(14)                      | B(18)                 | C(26)                               |
| EB (Left)/Through/Right                             | C(21)                    | D(45)                      | D(49)                 | D(54)                               |
| WB Left                                             | -                        | C(22)                      | C(28)                 | D(52)                               |
| WB (Left)/Through/Right                             | F(89)                    | C(31)                      | D(44)                 | D(49)                               |
| NB Left                                             | -                        | C(23)                      | C(26)                 | C(25)                               |
| NB (Left)/Through/(Right)                           | C(31)                    | C(32)                      | C(44)                 | C(29)                               |
| NB Right                                            | -                        | -                          | -                     | A(5)                                |
| SB Left                                             | -                        | C(21)                      | C(21)                 | B(18)                               |
| SB (Left)/Through/Right                             | C(21)                    | D(44)                      | F(115)                | D(53)                               |
| <b>NYS Route 31 @<br/>Cicero Center Road</b>        | <b>A(5)</b>              | <b>A(7)</b>                | <b>A(9)</b>           | <b>A(9)</b>                         |
| EB Left/Through/Right                               | A(4)                     | A(7)                       | A(8)                  | A(8)                                |
| WB Left/Through/Right                               | A(4)                     | A(6)                       | A(7)                  | A(7)                                |
| NB Left/Through/Right                               | B(13)                    | B(14)                      | B(14)                 | B(14)                               |
| SB Left/Through/Right                               | B(11)                    | B(12)                      | B(14)                 | B(14)                               |
| <b>NYS Route 31 @<br/>Lakeshore Road</b>            |                          |                            |                       |                                     |
| EB Left/Through                                     | a(1)                     | a(1)                       | a(1)                  | a(1)                                |
| WB Through/Right                                    | a(0)                     | a(0)                       | a(0)                  | a(0)                                |
| SB Left/Right                                       | c(20)                    | c(23)                      | d(31)                 | d(31)                               |



**Proposed Lakeshore Village Development – Lakeshore Road, Town of Cicero, NY**  
**Intersection Level of Service Summary**  
**Weekday Saturday Peak Hour**

| <b>Intersection</b>                                           | <b>2022<br/>Existing</b> | <b>2032<br/>Background</b> | <b>2032<br/>Build</b> | <b>2032 Build<br/>w/ Mitigation</b> |
|---------------------------------------------------------------|--------------------------|----------------------------|-----------------------|-------------------------------------|
| <b>South Bay Road @<br/>Thompson Road</b>                     | <b>C(21)</b>             | <b>C(22)</b>               | <b>C(24)</b>          | <b>C(22)</b>                        |
| EB Left                                                       | B(18)                    | B(20)                      | C(22)                 | B(14)                               |
| EB Through/Right                                              | C(33)                    | C(35)                      | D(39)                 | C(24)                               |
| WB Left                                                       | B(13)                    | B(13)                      | B(19)                 | B(13)                               |
| WB Through/Right                                              | C(34)                    | D(35)                      | D(38)                 | C(35)                               |
| NB Left/Through                                               | B(19)                    | B(20)                      | C(21)                 | C(24)                               |
| NB Right                                                      | A(2)                     | A(2)                       | A(4)                  | A(3)                                |
| SB Left/Through                                               | B(19)                    | B(20)                      | C(21)                 | C(24)                               |
| SB Right                                                      | A(2)                     | A(2)                       | A(2)                  | A(3)                                |
| <b>Lakeshore Road @<br/>Mudd Mill Road</b>                    |                          |                            |                       |                                     |
| EB Left/Through                                               | a(1)                     | a(1)                       | a(1)                  | a(1)                                |
| WB Through/Right                                              | a(0)                     | a(0)                       | a(0)                  | a(0)                                |
| SB Left/Right                                                 | b(14)                    | c(17)                      | d(28)                 | d(28)                               |
| <b>Lakeshore Road @<br/>South Bay Road</b>                    |                          |                            |                       |                                     |
| EB Through/Right                                              | a(0)                     | a(0)                       | a(0)                  | a(0)                                |
| WB Left/Through                                               | a(4)                     | a(3)                       | a(5)                  | a(5)                                |
| NB Left/Right                                                 | b(11)                    | b(11)                      | c(19)                 | c(19)                               |
| <b>Lake Shore Road @ Cicero<br/>Center Road / Van Antwerp</b> |                          |                            |                       |                                     |
| EB Left/Through/Right                                         | a(1)                     | a(1)                       | a(1)                  | a(1)                                |
| WB Left/Through/Right                                         | a(1)                     | a(1)                       | a(1)                  | a(1)                                |
| NB Left/Through/Right                                         | b(12)                    | b(14)                      | c(17)                 | c(17)                               |
| SB Left/Through/Right                                         | b(11)                    | b(11)                      | b(11)                 | b(11)                               |
| <b>Lake Shore Road @<br/>East Site Access</b>                 |                          |                            |                       |                                     |
| EB Left                                                       | -                        | -                          | -                     | a(8)                                |
| EB (Left)/Through/Right                                       | -                        | -                          | a(3)                  | a(0)                                |
| WB Left                                                       | -                        | -                          | -                     | a(8)                                |
| WB (Left)/Through/Right                                       | -                        | -                          | a(1)                  | a(0)                                |
| NB Left/Through/Right                                         | -                        | -                          | f(69)                 | f(65)                               |
| SB Left/Through/Right                                         | -                        | -                          | c(19)                 | c(19)                               |
| <b>Lake Shore Road @<br/>Middle Site Access</b>               |                          |                            |                       |                                     |
| EB Left                                                       | -                        | -                          | -                     | a(9)                                |
| EB (Left)/Through/Right                                       | -                        | -                          | a(1)                  | a(0)                                |
| WB Left                                                       | -                        | -                          | -                     | a(9)                                |
| WB (Left)/Through/Right                                       | -                        | -                          | a(0)                  | a(0)                                |
| NB Left/Through/Right                                         | -                        | -                          | e(37)                 | e(36)                               |
| SB Left/Through/Right                                         | -                        | -                          | c(17)                 | c(17)                               |
| <b>Lakeshore Road @<br/>West Site Access</b>                  |                          |                            |                       |                                     |
| EB Left/Through                                               | -                        | -                          | a(1)                  | a(1)                                |
| WB Through/Right                                              | -                        | -                          | a(0)                  | a(0)                                |
| SB Left/Right                                                 | -                        | -                          | c(15)                 | c(15)                               |

A(9) – Signalized Level of Service (Average Delay per Vehicle in Seconds) – Synchro  
a(9) – Unsignalized Level of Service (Average Delay per Vehicle in Seconds) – Synchro



**Proposed Lakeshore Village Development – Lakeshore Road, Town of Cicero, NY**  
**Maximum Queue Summary**  
**Weekday Morning Peak Hour**

| <b>Intersection</b>                             | <b>Available Storage</b> | <b>2022 Existing</b> | <b>2032 Background</b> | <b>2032 Build</b> | <b>2032 Build w/ Mitigation</b> |
|-------------------------------------------------|--------------------------|----------------------|------------------------|-------------------|---------------------------------|
| <b>NYS Route 31 @ NYS Route 11</b>              |                          |                      |                        |                   |                                 |
| EB Left                                         | 200                      | 33                   | 34                     | 34                | 37                              |
| EB Through/Right                                | -                        | 307                  | 331                    | 340               | 355                             |
| WB Left                                         | 495                      | 102                  | 138                    | 148               | 299                             |
| WB Through/Right                                | 700                      | 98                   | 104                    | 108               | 177                             |
| NB Left                                         | 175                      | 50                   | 52                     | 52                | 50                              |
| NB Through                                      | -                        | 122                  | 128                    | 128               | 120                             |
| NB Right                                        | -                        | 102                  | 119                    | 125               | 114                             |
| SB Left                                         | 350                      | 117                  | 123                    | 123               | 118                             |
| SB Through/Right                                | -                        | 84                   | 88                     | 88                | 87                              |
| <b>NYS Route 31 @ I-81 SB Ramps</b>             |                          |                      |                        |                   |                                 |
| EB Through/Right                                | 700                      | 507                  | 564                    | 593               | 552                             |
| WB Left                                         | 150                      | 550                  | 726                    | 883               | 953                             |
| WB Through                                      | 360                      | 20                   | 21                     | 17                | 29                              |
| SB Left/Through                                 | -                        | 130                  | 270                    | 278               | 278                             |
| SB Right                                        | 125                      | 0                    | 62                     | 62                | 62                              |
| <b>NYS Route 31 @ I-81 NB Ramps / Pardee Rd</b> |                          |                      |                        |                   |                                 |
| EB Left                                         | 85                       | 40                   | 46                     | 49                | 32                              |
| EB Through                                      | 360                      | 136                  | 135                    | 138               | 18                              |
| WB Through/Right                                | 1085                     | 466                  | 564                    | 734               | 404                             |
| NB Left                                         | 310                      | 160                  | 168                    | 168               | 177                             |
| NB Through                                      | -                        | 74                   | 76                     | 76                | 211                             |
| NB Right                                        | 100                      | 227                  | 308                    | 465               | 150                             |
| SB Right                                        | -                        | 26                   | 42                     | 44                | 102                             |
| <b>NYS Route 31 @ Lakeshore Road</b>            |                          |                      |                        |                   |                                 |
| EB Left                                         | 225                      | 10                   | 28                     | 48                | 68                              |
| EB Through                                      | 1085                     | 0                    | 0                      | 0                 | 0                               |
| WB Through/Right                                | -                        | 0                    | 0                      | 0                 | 698                             |
| SB Left/Right                                   | -                        | 725                  | 1073                   | 1463              | 802                             |
| <b>NYS Route 31 @ South Bay Road</b>            |                          |                      |                        |                   |                                 |
| EB Left                                         | 225                      | -                    | 22                     | 48                | 58                              |
| EB (Left)/Through/Right                         | -                        | 141                  | 267                    | 263               | 297                             |
| WB Left                                         | 225                      | -                    | 110                    | 110               | 134                             |
| WB (Left)/Through/Right                         | -                        | 210                  | 203                    | 208               | 228                             |
| NB Left                                         | 280                      | -                    | 57                     | 57                | 48                              |
| NB (Left)/Through/(Right)                       | -                        | 135                  | 138                    | 241               | 156                             |
| NB Right                                        | 150                      | -                    | -                      | -                 | 4                               |
| SB Left                                         | 225                      | -                    | 12                     | 12                | 11                              |
| SB (Left)/Through/Right                         | -                        | 217                  | 405                    | 727               | 560                             |
| <b>NYS Route 31 @ Cicero Center Road</b>        |                          |                      |                        |                   |                                 |
| EB Left/Through/Right                           | -                        | 59                   | 81                     | 83                | 83                              |
| WB Left/Through/Right                           | -                        | 64                   | 83                     | 87                | 87                              |
| NB Left/Through/Right                           | -                        | 16                   | 17                     | 17                | 17                              |
| SB Left/Through/Right                           | -                        | 24                   | 37                     | 41                | 41                              |
| <b>NYS Route 31 @ Lakeshore Road</b>            |                          |                      |                        |                   |                                 |
| EB Left/Through                                 | -                        | 0                    | 0                      | 0                 | 0                               |
| WB Through/Right                                | -                        | 0                    | 0                      | 0                 | 0                               |
| SB Left/Right                                   | -                        | 13                   | 13                     | 25                | 25                              |



**Proposed Lakeshore Village Development – Lakeshore Road, Town of Cicero, NY**  
**Maximum Queue Summary**  
**Weekday Morning Peak Hour**

| <b>Intersection</b>                                       | <b>Available Storage</b> | <b>2022 Existing</b> | <b>2032 Background</b> | <b>2032 Build</b> | <b>2032 Build w/ Mitigation</b> |
|-----------------------------------------------------------|--------------------------|----------------------|------------------------|-------------------|---------------------------------|
| <b>South Bay Road @ Thompson Road</b>                     |                          |                      |                        |                   |                                 |
| EB Left                                                   | 300                      | 116                  | 126                    | 141               | 99                              |
| EB Through/Right                                          | -                        | 187                  | 199                    | 227               | 222                             |
| WB Left                                                   | 250                      | 110                  | 118                    | 241               | 147                             |
| WB Through/Right                                          | -                        | 177                  | 190                    | 227               | 227                             |
| NB Left/Through                                           | -                        | 126                  | 136                    | 136               | 153                             |
| NB Right                                                  | 210                      | 20                   | 20                     | 30                | 26                              |
| SB Left/Through                                           | -                        | 132                  | 146                    | 146               | 165                             |
| SB Right                                                  | 600                      | 26                   | 28                     | 28                | 28                              |
| <b>Lakeshore Road @ Mudd Mill Road</b>                    |                          |                      |                        |                   |                                 |
| EB Left/Through                                           | -                        | 0                    | 0                      | 3                 | 3                               |
| WB Through/Right                                          | -                        | 0                    | 0                      | 0                 | 0                               |
| SB Left/Right                                             | -                        | 15                   | 20                     | 33                | 33                              |
| <b>Lakeshore Road @ South Bay Road</b>                    |                          |                      |                        |                   |                                 |
| EB Through/Right                                          | -                        | 0                    | 0                      | 0                 | 0                               |
| WB Left/Through                                           | 300                      | 5                    | 5                      | 25                | 25                              |
| NB Left/Right                                             | -                        | 8                    | 10                     | 35                | 35                              |
| <b>Lake Shore Road @ Cicero Center Road / Van Antwerp</b> |                          |                      |                        |                   |                                 |
| EB Left/Through/Right                                     | -                        | 0                    | 0                      | 0                 | 0                               |
| WB Left/Through/Right                                     | -                        | 0                    | 0                      | 0                 | 0                               |
| NB Left/Through/Right                                     | -                        | 5                    | 8                      | 10                | 10                              |
| SB Left/Through/Right                                     | -                        | 0                    | 0                      | 0                 | 0                               |
| <b>Lake Shore Road @ East Site Access</b>                 |                          |                      |                        |                   |                                 |
| EB Left                                                   | 100                      | -                    | -                      | -                 | 10                              |
| EB (Left)/Through/Right                                   | 480                      | -                    | -                      | 10                | 0                               |
| WB Left                                                   | 100                      | -                    | -                      | -                 | 0                               |
| WB (Left)/Through/Right                                   | -                        | -                    | -                      | 0                 | 0                               |
| NB Left/Through/Right                                     | -                        | -                    | -                      | 73                | 70                              |
| SB Left/Through/Right                                     | -                        | -                    | -                      | 25                | 25                              |
| <b>Lake Shore Road @ Middle Site Access</b>               |                          |                      |                        |                   |                                 |
| EB Left                                                   | 100                      | -                    | -                      | -                 | 5                               |
| EB (Left)/Through/Right                                   | 360                      | -                    | -                      | 5                 | 0                               |
| WB Left                                                   | 100                      | -                    | -                      | -                 | 0                               |
| WB (Left)/Through/Right                                   | 480                      | -                    | -                      | 0                 | 0                               |
| NB Left/Through/Right                                     | -                        | -                    | -                      | 13                | 13                              |
| SB Left/Through/Right                                     | -                        | -                    | -                      | 10                | 10                              |
| <b>Lakeshore Road @ West Site Access</b>                  |                          |                      |                        |                   |                                 |
| EB Left/Through                                           | 300                      | -                    | -                      | 0                 | 0                               |
| WB Through/Right                                          | 480                      | -                    | -                      | 0                 | 0                               |
| SB Left/Right                                             | -                        | -                    | -                      | 3                 | 3                               |

Available Storage and Maximum Queue Lengths in Feet - 95<sup>th</sup> Percentile Queue Lengths from Synchro Analysis



**Proposed Lakeshore Village Development – Lakeshore Road, Town of Cicero, NY**  
**Maximum Queue Summary**  
**Weekday Evening Peak Hour**

| <b>Intersection</b>                             | <b>Available Storage</b> | <b>2022 Existing</b> | <b>2032 Background</b> | <b>2032 Build</b> | <b>2032 Build w/ Mitigation</b> |
|-------------------------------------------------|--------------------------|----------------------|------------------------|-------------------|---------------------------------|
| <b>NYS Route 31 @ NYS Route 11</b>              |                          |                      |                        |                   |                                 |
| EB Left                                         | 200                      | 54                   | 55                     | 55                | 45                              |
| EB Through/Right                                | -                        | 344                  | 374                    | 392               | 386                             |
| WB Left                                         | 495                      | 582                  | 679                    | 706               | 536                             |
| WB Through/Right                                | 700                      | 341                  | 372                    | 383               | 295                             |
| NB Left                                         | 175                      | 134                  | 139                    | 139               | 118                             |
| NB Through                                      | -                        | 388                  | 411                    | 411               | 412                             |
| NB Right                                        | -                        | 438                  | 520                    | 538               | 424                             |
| SB Left                                         | 350                      | 233                  | 295                    | 296               | 255                             |
| SB Through/Right                                | -                        | 146                  | 153                    | 153               | 122                             |
| <b>NYS Route 31 @ I-81 SB Ramps</b>             |                          |                      |                        |                   |                                 |
| EB Through/Right                                | 700                      | 607                  | 698                    | 731               | 672                             |
| WB Left                                         | 150                      | 201                  | 205                    | 242               | 260                             |
| WB Through                                      | 360                      | 21                   | 23                     | 21                | 79                              |
| SB Left/Through                                 | -                        | 188                  | 224                    | 239               | 239                             |
| SB Right                                        | 125                      | 48                   | 54                     | 59                | 59                              |
| <b>NYS Route 31 @ I-81 NB Ramps / Pardee Rd</b> |                          |                      |                        |                   |                                 |
| EB Left                                         | 85                       | 235                  | 224                    | 209               | 270                             |
| EB Through                                      | 360                      | 314                  | 337                    | 332               | 80                              |
| WB Through/Right                                | 1085                     | 770                  | 861                    | 962               | 667                             |
| NB Left                                         | 310                      | 322                  | 341                    | 341               | 367                             |
| NB Through                                      | -                        | 109                  | 115                    | 115               | 532                             |
| NB Right                                        | 100                      | 667                  | 800                    | 1004              | 515                             |
| SB Right                                        | -                        | 48                   | 60                     | 60                | 101                             |
| <b>NYS Route 31 @ Lakeshore Road</b>            |                          |                      |                        |                   |                                 |
| EB Left                                         | 225                      | 175                  | 313                    | 578               | 675                             |
| EB Through                                      | 1085                     | 0                    | 0                      | 0                 | 0                               |
| WB Through/Right                                | -                        | 0                    | 0                      | 0                 | 971                             |
| SB Left/Right                                   | -                        | 400                  | 593                    | 875               | 462                             |
| <b>NYS Route 31 @ South Bay Road</b>            |                          |                      |                        |                   |                                 |
| EB Left                                         | 225                      | -                    | 50                     | 94                | 87                              |
| EB (Left)/Through/Right                         | -                        | 415                  | 679                    | 665               | 614                             |
| WB Left                                         | 225                      | -                    | 162                    | 159               | 143                             |
| WB (Left)/Through/Right                         | -                        | 393                  | 346                    | 338               | 318                             |
| NB Left                                         | 280                      | -                    | 63                     | 63                | 67                              |
| NB (Left)/Through/(Right)                       | -                        | 505                  | 645                    | 905               | 588                             |
| NB Right                                        | 150                      | -                    | -                      | -                 | 116                             |
| SB Left                                         | 225                      | -                    | 12                     | 12                | 13                              |
| SB (Left)/Through/Right                         | -                        | 128                  | 199                    | 364               | 417                             |
| <b>NYS Route 31 @ Cicero Center Road</b>        |                          |                      |                        |                   |                                 |
| EB Left/Through/Right                           | -                        | 164                  | 277                    | 284               | 284                             |
| WB Left/Through/Right                           | -                        | 101                  | 121                    | 133               | 133                             |
| NB Left/Through/Right                           | -                        | 34                   | 37                     | 36                | 36                              |
| SB Left/Through/Right                           | -                        | 27                   | 37                     | 45                | 45                              |
| <b>NYS Route 31 @ Lakeshore Road</b>            |                          |                      |                        |                   |                                 |
| EB Left/Through                                 | -                        | 3                    | 5                      | 5                 | 5                               |
| WB Through/Right                                | -                        | 0                    | 0                      | 0                 | 0                               |
| SB Left/Right                                   | -                        | 25                   | 33                     | 60                | 60                              |



**Proposed Lakeshore Village Development – Lakeshore Road, Town of Cicero, NY**  
**Maximum Queue Summary**  
**Weekday Evening Peak Hour**

| <b>Intersection</b>                                       | <b>Available Storage</b> | <b>2022 Existing</b> | <b>2032 Background</b> | <b>2032 Build</b> | <b>2032 Build w/ Mitigation</b> |
|-----------------------------------------------------------|--------------------------|----------------------|------------------------|-------------------|---------------------------------|
| <b>South Bay Road @ Thompson Road</b>                     |                          |                      |                        |                   |                                 |
| EB Left                                                   | 300                      | 184                  | 251                    | 277               | 226                             |
| EB Through/Right                                          | -                        | 256                  | 302                    | 371               | 300                             |
| WB Left                                                   | 250                      | 51                   | 57                     | 117               | 71                              |
| WB Through/Right                                          | -                        | 213                  | 240                    | 285               | 285                             |
| NB Left/Through                                           | -                        | 213                  | 232                    | 232               | 296                             |
| NB Right                                                  | 210                      | 47                   | 59                     | 115               | 111                             |
| SB Left/Through                                           | -                        | 102                  | 109                    | 109               | 122                             |
| SB Right                                                  | 600                      | 34                   | 51                     | 62                | 62                              |
| <b>Lakeshore Road @ Mudd Mill Road</b>                    |                          |                      |                        |                   |                                 |
| EB Left/Through                                           | -                        | 5                    | 5                      | 5                 | 5                               |
| WB Through/Right                                          | -                        | 0                    | 0                      | 0                 | 0                               |
| SB Left/Right                                             | -                        | 30                   | 53                     | 110               | 110                             |
| <b>Lakeshore Road @ South Bay Road</b>                    |                          |                      |                        |                   |                                 |
| EB Through/Right                                          | -                        | 0                    | 0                      | 0                 | 0                               |
| WB Left/Through                                           | 300                      | 8                    | 8                      | 30                | 30                              |
| NB Left/Right                                             | -                        | 27                   | 25                     | 190               | 190                             |
| <b>Lake Shore Road @ Cicero Center Road / Van Antwerp</b> |                          |                      |                        |                   |                                 |
| EB Left/Through/Right                                     | -                        | 0                    | 0                      | 0                 | 0                               |
| WB Left/Through/Right                                     | -                        | 0                    | 0                      | 0                 | 0                               |
| NB Left/Through/Right                                     | -                        | 5                    | 23                     | 38                | 38                              |
| SB Left/Through/Right                                     | -                        | 0                    | 0                      | 0                 | 0                               |
| <b>Lake Shore Road @ East Site Access</b>                 |                          |                      |                        |                   |                                 |
| EB Left                                                   | 100                      | -                    | -                      | -                 | 15                              |
| EB (Left)/Through/Right                                   | 480                      | -                    | -                      | 15                | 0                               |
| WB Left                                                   | 100                      | -                    | -                      | -                 | 0                               |
| WB (Left)/Through/Right                                   | -                        | -                    | -                      | 0                 | 0                               |
| NB Left/Through/Right                                     | -                        | -                    | -                      | 95                | 88                              |
| SB Left/Through/Right                                     | -                        | -                    | -                      | 60                | 58                              |
| <b>Lake Shore Road @ Middle Site Access</b>               |                          |                      |                        |                   |                                 |
| EB Left                                                   | 100                      | -                    | -                      | -                 | 5                               |
| EB (Left)/Through/Right                                   | 360                      | -                    | -                      | 5                 | -                               |
| WB Left                                                   | 100                      | -                    | -                      | -                 | 0                               |
| WB (Left)/Through/Right                                   | 480                      | -                    | -                      | 0                 | 0                               |
| NB Left/Through/Right                                     | -                        | -                    | -                      | 18                | 18                              |
| SB Left/Through/Right                                     | -                        | -                    | -                      | 20                | 20                              |
| <b>Lakeshore Road @ West Site Access</b>                  |                          |                      |                        |                   |                                 |
| EB Left/Through                                           | 300                      | -                    | -                      | 3                 | 3                               |
| WB Through/Right                                          | 480                      | -                    | -                      | 0                 | 0                               |
| SB Left/Right                                             | -                        | -                    | -                      | 5                 | 5                               |

Available Storage and Maximum Queue Lengths in Feet - 95<sup>th</sup> Percentile Queue Lengths from Synchro Analysis



**Proposed Lakeshore Village Development – Lakeshore Road, Town of Cicero, NY**  
**Maximum Queue Summary**  
**Weekday Saturday Peak Hour**

| <b>Intersection</b>                             | <b>Available Storage</b> | <b>2022 Existing</b> | <b>2032 Background</b> | <b>2032 Build</b> | <b>2032 Build w/ Mitigation</b> |
|-------------------------------------------------|--------------------------|----------------------|------------------------|-------------------|---------------------------------|
| <b>NYS Route 31 @ NYS Route 11</b>              |                          |                      |                        |                   |                                 |
| EB Left                                         | 200                      | 59                   | 61                     | 61                | 45                              |
| EB Through/Right                                | -                        | 384                  | 434                    | 462               | 387                             |
| WB Left                                         | 495                      | 770                  | 857                    | 882               | 666                             |
| WB Through/Right                                | 700                      | 302                  | 333                    | 347               | 241                             |
| NB Left                                         | 175                      | 131                  | 136                    | 136               | 122                             |
| NB Through                                      | -                        | 378                  | 399                    | 399               | 410                             |
| NB Right                                        | -                        | 511                  | 598                    | 617               | 505                             |
| SB Left                                         | 350                      | 171                  | 188                    | 189               | 214                             |
| SB Through/Right                                | -                        | 195                  | 204                    | 204               | 175                             |
| <b>NYS Route 31 @ I-81 SB Ramps</b>             |                          |                      |                        |                   |                                 |
| EB Through/Right                                | 700                      | 638                  | 718                    | 748               | 681                             |
| WB Left                                         | 150                      | 222                  | 230                    | 247               | 382                             |
| WB Through                                      | 360                      | 10                   | 20                     | 7                 | 124                             |
| SB Left/Through                                 | -                        | 175                  | 217                    | 238               | 214                             |
| SB Right                                        | 125                      | 68                   | 100                    | 108               | 112                             |
| <b>NYS Route 31 @ I-81 NB Ramps / Pardee Rd</b> |                          |                      |                        |                   |                                 |
| EB Left                                         | 85                       | 218                  | 211                    | 191               | 205                             |
| EB Through                                      | 360                      | 329                  | 327                    | 318               | 70                              |
| WB Through/Right                                | 1085                     | 692                  | 825                    | 947               | 500                             |
| NB Left                                         | 310                      | 187                  | 187                    | 185               | 269                             |
| NB Through                                      | -                        | 56                   | 55                     | 54                | 192                             |
| NB Right                                        | 100                      | 235                  | 270                    | 439               | 201                             |
| SB Right                                        | -                        | 0                    | 0                      | 0                 | 86                              |
| <b>NYS Route 31 @ Lakeshore Road</b>            |                          |                      |                        |                   |                                 |
| EB Left                                         | 225                      | 93                   | 138                    | 260               | 599                             |
| EB Through                                      | 1085                     | 0                    | 0                      | 0                 | 0                               |
| WB Through/Right                                | -                        | 0                    | 0                      | 0                 | 837                             |
| SB Left/Right                                   | -                        | 485                  | 698                    | 1050              | 584                             |
| <b>NYS Route 31 @ South Bay Road</b>            |                          |                      |                        |                   |                                 |
| EB Left                                         | 225                      | -                    | 31                     | 72                | 84                              |
| EB (Left)/Through/Right                         | -                        | 285                  | 566                    | 541               | 585                             |
| WB Left                                         | 225                      | -                    | 110                    | 120               | 191                             |
| WB (Left)/Through/Right                         | -                        | 496                  | 453                    | 456               | 492                             |
| NB Left                                         | 280                      | -                    | 61                     | 61                | 60                              |
| NB (Left)/Through/(Right)                       | -                        | 261                  | 275                    | 526               | 273                             |
| NB Right                                        | 150                      | -                    | -                      | -                 | 44                              |
| SB Left                                         | 225                      | -                    | 18                     | 18                | 17                              |
| SB (Left)/Through/Right                         | -                        | 124                  | 212                    | 498               | 403                             |
| <b>NYS Route 31 @ Cicero Center Road</b>        |                          |                      |                        |                   |                                 |
| EB Left/Through/Right                           | -                        | 115                  | 156                    | 166               | 166                             |
| WB Left/Through/Right                           | -                        | 89                   | 113                    | 126               | 126                             |
| NB Left/Through/Right                           | -                        | 17                   | 2                      | 20                | 20                              |
| SB Left/Through/Right                           | -                        | 22                   | 33                     | 41                | 41                              |
| <b>NYS Route 31 @ Lakeshore Road</b>            |                          |                      |                        |                   |                                 |
| EB Left/Through                                 | -                        | 3                    | 3                      | 3                 | 3                               |
| WB Through/Right                                | -                        | 0                    | 0                      | 0                 | 0                               |
| SB Left/Right                                   | -                        | 30                   | 40                     | 70                | 70                              |



**Proposed Lakeshore Village Development – Lakeshore Road, Town of Cicero, NY**  
**Maximum Queue Summary**  
**Weekday Saturday Peak Hour**

| <b>Intersection</b>                                       | <b>Available Storage</b> | <b>2022 Existing</b> | <b>2032 Background</b> | <b>2032 Build</b> | <b>2032 Build w/ Mitigation</b> |
|-----------------------------------------------------------|--------------------------|----------------------|------------------------|-------------------|---------------------------------|
| <b>South Bay Road @ Thompson Road</b>                     |                          |                      |                        |                   |                                 |
| EB Left                                                   | 300                      | 92                   | 99                     | 100               | 83                              |
| EB Through/Right                                          | -                        | 210                  | 227                    | 272               | 256                             |
| WB Left                                                   | 250                      | 47                   | 50                     | 84                | 71                              |
| WB Through/Right                                          | -                        | 201                  | 216                    | 255               | 244                             |
| NB Left/Through                                           | -                        | 102                  | 110                    | 110               | 122                             |
| NB Right                                                  | 210                      | 22                   | 23                     | 43                | 38                              |
| SB Left/Through                                           | -                        | 108                  | 116                    | 116               | 129                             |
| SB Right                                                  | 600                      | 27                   | 29                     | 29                | 30                              |
| <b>Lakeshore Road @ Mudd Mill Road</b>                    |                          |                      |                        |                   |                                 |
| EB Left/Through                                           | -                        | 3                    | 3                      | 3                 | 3                               |
| WB Through/Right                                          | -                        | 0                    | 0                      | 0                 | 0                               |
| SB Left/Right                                             | -                        | 29                   | 45                     | 88                | 88                              |
| <b>Lakeshore Road @ South Bay Road</b>                    |                          |                      |                        |                   |                                 |
| EB Through/Right                                          | -                        | 0                    | 0                      | 0                 | 0                               |
| WB Left/Through                                           | 300                      | 8                    | 8                      | 28                | 28                              |
| NB Left/Right                                             | -                        | 13                   | 15                     | 93                | 93                              |
| <b>Lake Shore Road @ Cicero Center Road / Van Antwerp</b> |                          |                      |                        |                   |                                 |
| EB Left/Through/Right                                     | -                        | 0                    | 0                      | 0                 | 0                               |
| WB Left/Through/Right                                     | -                        | 0                    | 0                      | 0                 | 0                               |
| NB Left/Through/Right                                     | -                        | 8                    | 10                     | 28                | 28                              |
| SB Left/Through/Right                                     | -                        | 3                    | 3                      | 3                 | 3                               |
| <b>Lake Shore Road @ East Site Access</b>                 |                          |                      |                        |                   |                                 |
| EB Left                                                   | 100                      | -                    | -                      | -                 | 13                              |
| EB (Left)/Through/Right                                   | 480                      | -                    | -                      | 13                | 0                               |
| WB Left                                                   | 100                      | -                    | -                      | -                 | 0                               |
| WB (Left)/Through/Right                                   | -                        | -                    | -                      | 0                 | 0                               |
| NB Left/Through/Right                                     | -                        | -                    | -                      | 85                | 83                              |
| SB Left/Through/Right                                     | -                        | -                    | -                      | 58                | 55                              |
| <b>Lake Shore Road @ Middle Site Access</b>               |                          |                      |                        |                   |                                 |
| EB Left                                                   | 100                      | -                    | -                      | -                 | 5                               |
| EB (Left)/Through/Right                                   | 360                      | -                    | -                      | 5                 | 0                               |
| WB Left                                                   | 100                      | -                    | -                      | -                 | 0                               |
| WB (Left)/Through/Right                                   | 480                      | -                    | -                      | 0                 | 0                               |
| NB Left/Through/Right                                     | -                        | -                    | -                      | 15                | 15                              |
| SB Left/Through/Right                                     | -                        | -                    | -                      | 18                | 18                              |
| <b>Lakeshore Road @ West Site Access</b>                  |                          |                      |                        |                   |                                 |
| EB Left/Through                                           | 300                      | -                    | -                      | 3                 | 3                               |
| WB Through/Right                                          | 480                      | -                    | -                      | 0                 | 0                               |
| SB Left/Right                                             | -                        | -                    | -                      | 5                 | 5                               |

Available Storage and Maximum Queue Lengths in Feet - 95<sup>th</sup> Percentile Queue Lengths from Synchro Analysis



## **APPENDIX G**

### Accident Analysis



**Proposed Lakeshore Village Development - Lakeshore Road - Town of Cicero NY**  
**Accident History Summaries - January 1, 2019 Through December 31, 2021**

| Accident # | Date      | Location / Mile Marker     | Type         | # Cars | Severity | Direction                 | Conditions | Contributing Factors        |
|------------|-----------|----------------------------|--------------|--------|----------|---------------------------|------------|-----------------------------|
| 1          | 1/2/2019  | 31 @ New Country           | Right Angle  | 2      | PDO      | NB Left / EB              | Dry        | Traffic Control Disregarded |
| 2          | 1/3/2019  | 31 @ Doreen                | Right Angle  | 2      | INJ      | NB Left / EB              | Wet        | Failure to Yield ROW        |
| 3          | 1/4/2019  | 31 @ Route 11              | Right Angle  | 2      | INJ      | WB Left / NB              | Dry        | Failure to Yield ROW        |
| 4          | 1/12/2019 | 31 @ Lakeshore Spur        | Rearend      | 2      | PDO      | WB / WB                   | Dry        | Following Too Closely       |
| 5          | 1/14/2019 | 31 @ Pardee                | Rearend      | 2      | PDO      | WB / WB Stopped           | Dry        | Following Too Closely       |
| 6          | 1/14/2019 | 31 @ Crabtree              | Right Angle  | 2      | PDO      | WB / NB Left              | Dry        | Failure to Yield ROW        |
| 7          | 1/4/2019  | 31 @ South Bay             | Rearend      | 2      | INJ      | EB / EB Stopped           | Dry        | Following Too Closely       |
| 8          | 1/16/2019 | 31 - 53m E of Doreen       | Rearend      | 2      | PDO      | EB / EB                   | Dry        | Following Too Closely       |
| 9          | 1/16/2019 | 31 - 14m W of Crabtree     | Rearend      | 2      | PDO      | WB / WB                   | Dry        | Following Too Closely       |
| 10         | 1/26/2019 | 31 @ South Bay             | Right Angle  | 2      | PDO      | EB / SB                   | Dry        | Traffic Control Disregarded |
| 11         | 1/30/2019 | 31 @ Pardee                | Rearend      | 3      | PDO      | WB / WB Stopped (2)       | Wet        | Following Too Closely       |
| 12         | 2/1/2019  | 31 @ Lakeshore             | Rearend      | 2      | PDO      | SB / SB Stopped           | Dry        | Following Too Closely       |
| 13         | 1/31/2019 | 31 @ Route 11              | Rearend      | 2      | PDO      | WB / WB Stopped           | Dry        | Following Too Closely       |
| 14         | 2/2/2019  | 31 @ Route 11              | Rearend      | 2      | INJ      | EB / EB                   | Dry        | Following Too Closely       |
| 15         | 2/2/2019  | 31 @ Route 11              | Overtaking   | 2      | PDO      | SB Changing Lanes / SB    | Dry        | Unsafe Lane Change          |
| 16         | 2/5/2019  | 31 - 91m W of Crabtree     | Rearend      | 2      | PDO      | EB / EB Stopped           | Wet        | Driver Inattention          |
| 17         | 2/8/2019  | 31 - 36m E of Route 11     | Rearend      | 2      | PDO      | EB / EB Stopped           | Dry        | Following Too Closely       |
| 18         | 1/28/2019 | Parking Lot                | Backing      | 2      | PDO      | NB Backing / SB Parked    | Wet        | Backing Unsafely            |
| 19         | 2/11/2019 | 31 @ Thompson              | Rearend      | 2      | INJ      | WB / WB Stopped           | Dry        | Passing Improperly          |
| 20         | 1/20/2019 | 31 - 101m E of New Country | Right Turn   | 2      | INJ      | EB Right / EB             | Snow / Ice | Passing Improperly          |
| 21         | 1/25/2019 | 31 @ Thompson              | Rearend      | 2      | PDO      | WB / WB                   | Wet        | Pavement Slippery           |
| 22         | 2/17/2019 | 31 - MM 31 33091250        | Rearend      | 2      | PDO      | EB / EB Stopped           | Wet        | Following Too Closely       |
| 23         | 2/19/2019 | 31 @ Thompson              | Sideswipe    | 2      | INJ      | SB / NB Left              | Dry        | Failure to Yield ROW        |
| 24         | 2/24/2019 | 31 @ Lakeshore Spur        | Animal       | 1      | PDO      | WB / Animal               | Snow / Ice | Animal's Action             |
| 25         | 2/21/2019 | 31 - 150m W of Pardee      | Rearend      | 2      | INJ      | WB / WB Stopped           | Dry        | Following Too Closely       |
| 26         | 2/25/2019 | 31 @ Button                | Fixed Object | 2      | PDO      | EB / EB                   | Snow / Ice | Pavement Slippery           |
| 27         | 3/5/2019  | 31 @ Pardee                | Left Turn    | 3      | INJ      | EB Left / WB / SB Stopped | Dry        | Failure to Yield ROW        |
| 28         | 3/10/2019 | 31 - 61m E of Route 11     | Overtaking   | 2      | PDO      | WB Changing Lanes / WB    | Wet        | Unsafe Lane Change          |
| 29         | 3/12/2019 | 31 @ Pardee                | Rearend      | 2      | PDO      | WB / WB Stopped           | Snow / Ice | Pavement Slippery           |
| 30         | 3/14/2019 | Parking Lot                | Left Turn    | 2      | PDO      | SB Left / SB Parked       | Dry        | Driver Inattention          |
| 31         | 3/17/2019 | 31 - 91m E of Route 11     | Left Turn    | 2      | PDO      | WB Left / EB              | Dry        | Failure to Yield ROW        |
| 32         | 3/19/2019 | 31 @ New Country           | Rear end     | 2      | INJ      | EB / EB Stopped           | Dry        | Following Too Closely       |
| 33         | 3/19/2019 | 31 @ Lakeshore             | Rearend      | 2      | PDO      | WB / WB                   | Dry        | Following Too Closely       |
| 34         | 3/22/2019 | 31 @ Eastwood              | Animal       | 2      | INJ      | EB / WB                   | Wet        | Animal's Action             |
| 35         | 3/22/2019 | 31 @ South Bay             | Left Turn    | 2      | PDO      | WB Left / NB              | Wet        | Improper Turn               |
| 36         | 3/23/2019 | 31 @ Lakeshore Spur        | Rearend      | 2      | INJ      | WB / WB Stopped           | Snow / Ice | Following Too Closely       |



| Accident # | Date      | Location                   | Type         | # Cars | Severity | Direction                 | Conditions | Contributing Factors  |
|------------|-----------|----------------------------|--------------|--------|----------|---------------------------|------------|-----------------------|
| 37         | 3/22/2019 | 31 - 15m E of Whiting      | Fixed Object | 1      | PDO      | EB / Utility Pole         | Snow / Ice | Pavement Slippery     |
| 38         | 3/26/2019 | 31 @ Crabtree              | Overtaking   | 2      | PDO      | EB Changing Lanes / EB    | Dry        | Unsafe Lane Change    |
| 39         | 4/1/2019  | 31 @ Thompson              | Rearend      | 2      | PDO      | EB / EB Stopped           | Dry        | Following Too Closely |
| 40         | 4/1/2019  | 31 @ Lakeshore             | Rearend      | 2      | PDO      | WB / WB Stopped           | Dry        | Following Too Closely |
| 41         | 4/2/2019  | 31 - 132m W of Lakeshore   | Animal       | 1      | PDO      | WB / Deer                 | Dry        | Animal's Action       |
| 42         | 4/3/2019  | 31 @ Thompson              | Rearend      | 2      | PDO      | EB / EB Stopped           | Dry        | Following Too Closely |
| 43         | 4/10/2019 | 31 - 91m E of Pardee       | Left Turn    | 3      | INJ      | EB Left / WB / SB Stopped | Dry        | Failure to Yield ROW  |
| 44         | 4/8/2019  | 31 - 151m W of Lakeshore   | Right Angle  | 2      | INJ      | NB Left / WB              | Dry        | Failure to Yield ROW  |
| 45         | 4/13/2019 | 31 @ Pardee                | Backing      | 2      | PDO      | SB Backing / NB Stopped   | Dry        | Backing Unsafely      |
| 46         | 4/11/2019 | 31 @ New Country           | Rearend      | 2      | INJ      | WB / WB Stopped           | Dry        | Following Too Closely |
| 47         | 4/16/2019 | 31 @ Thompson              | Rearend      | 2      | PDO      | WB / WB Left              | Dry        | Following Too Closely |
| 48         | 4/17/2019 | 31 - 152m E of Pardee      | Right Angle  | 2      | INJ      | NB Left / WB              | Dry        | Failure to Yield ROW  |
| 49         | 4/16/2019 | 31 @ Route 11              | Left Turn    | 2      | INJ      | WB Left / EB              | Dry        | Failure to Yield ROW  |
| 50         | 4/9/2019  | 31 - 151m W of Lakeshore   | Right Angle  | 2      | PDO      | NB Left / WB              | Dry        | Failure to Yield ROW  |
| 51         | 4/23/2019 | 31 @ Route 11              | Rearend      | 2      | PDO      | WB / WB Stopped           | dry        | Following Too Closely |
| 52         | 4/26/2019 | 31 @ Route 11              | Rearend      | 4      | PDO      | EB / EB Stopped (3)       | Wet        | Following Too Closely |
| 53         | 5/2/2019  | 31 @ Lakeshore             | Rearend      | 2      | PDO      | SB / SB                   | Wet        | Following Too Closely |
| 54         | 4/15/2019 | Parking Lot                | Backing      | 2      | PDO      | NB Backing / NB Parked    | Dry        | Backing Unsafely      |
| 55         | 4/27/2019 | 31 @ South Bay             | Rearend      | 2      | PDO      | SB / SB                   | Dry        | Following Too Closely |
| 56         | 5/7/2019  | 31 - 76m E of Pardee       | Right Angle  | 2      | INJ      | SB Left / WB              | Wet        | Failure to Yield ROW  |
| 57         | 5/6/2019  | 31 @ Lakeshore Spur        | Rearend      | 2      | PDO      | WB / WB Stopped           | Dry        | Following Too Closely |
| 58         | 5/7/2019  | 31 - 246m E of New Country | Rearend      | 2      | PDO      | NB / NB Stopped           | Wet        | Following Too Closely |
| 59         | 4/6/2019  | 31 @ Pardee                | Backing      | 2      | PDO      | SB Backing / NB Stopped   | Dry        | Backing Unsafely      |
| 60         | 5/8/2019  | 31 - 91m E of Pardee       | Right Angle  | 2      | PDO      | NB Left / WB              | Dry        | Failure to Yield ROW  |
| 61         | 5/14/2019 | 31 @ Pardee                | Right Angle  | 2      | INJ      | NB Left / EB              | Wet        | Failure to Yield ROW  |
| 62         | 5/17/2019 | 31 @ Route 11              | Rearend      | 2      | PDO      | NB / NB Stopped           | Dry        | Following Too Closely |
| 63         | 5/17/2019 | 31 @ Crabtree              | Right Angle  | 2      | INJ      | WB / NB Left              | Dry        | Failure to Yield ROW  |
| 64         | 5/11/2019 | 31 - 49m E of Pardee       | Right Angle  | 2      | INJ      | NB Left / EB              | Dry        | Failure to Yield ROW  |
| 65         | 5/19/2019 | 31 @ Route 11              | Left Turn    | 2      | PDO      | WB Left / EB              | Dry        | Failure to Yield ROW  |
| 66         | 5/6/2019  | 31 @ Lakeshore             | Rearend      | 2      | PDO      | WB / WB Stopped           | Dry        | Following Too Closely |
| 67         | 5/22/2019 | 31 @ Thompson              | Rearend      | 2      | INJ      | EB / EB Stopped           | Dry        | Following Too Closely |
| 68         | 5/21/2019 | 31 @ Route 11              | Right Angle  | 2      | PDO      | EB / NB Left              | Dry        | Failure to Yield ROW  |
| 69         | 5/25/2019 | 31 @ I-81 SB               | Left Turn    | 2      | PDO      | SB Left / EB              | Dry        | Failure to Yield ROW  |
| 70         | 1/18/2019 | 31 - 191m E of New Country | Rearend      | 2      | PDO      | WB / WB                   | Wet        | Following Too Closely |
| 71         | 5/29/2019 | 31 @ Route 11              | Rearend      | 3      | INJ      | NB / NB Stopped (2)       | Dry        | Speed Unsafe          |
| 72         | 5/30/2019 | 31 - 30m W of Route 11     | Left Turn    | 2      | PDO      | NB Left / WB              | Dry        | Failure to Yield ROW  |
| 73         | 6/1/2019  | 31 @ Route 11              | Rearend      | 2      | PDO      | NB / NB                   | Dry        | Following Too Closely |
| 74         | 5/31/2019 | 31 @ I-81 SB               | Rearend      | 2      | PDO      | EB / EB Stopped           | Dry        | Following Too Closely |
| 75         | 6/3/2019  | 31 @ Button                | Rearend      | 2      | PDO      | EB / EB Stopped           | Dry        | Following Too Closely |



| Accident # | Date      | Location                 | Type         | # Cars | Severity | Direction              | Conditions | Contributing Factors        |
|------------|-----------|--------------------------|--------------|--------|----------|------------------------|------------|-----------------------------|
| 76         | 5/27/2019 | Parking Lot              | Backing      | 2      | PDO      | SB Backing / EB Parked | Dry        | Backing Unsafely            |
| 77         | 6/1/2019  | 31 @ I-81 SB             | Left Turn    | 2      | PDO      | WB Left / EB           | Dry        | Driver Inattention          |
| 78         | 6/7/2019  | 31 - 152m E of Pardee    | Right Angle  | 2      | PDO      | WB / NB Left           | Dry        | Failure to Yield ROW        |
| 79         | 6/7/2019  | 31 - 152m E of Pardee    | Overtaking   | 2      | PDO      | WB Changing Lanes / WB | Dry        | Unsafe Lane Change          |
| 80         | 6/7/2019  | 31 @ Route 11            | Rearend      | 2      | PDO      | WB / WB Stopped        | Dry        | Speed Unsafe                |
| 81         | 6/8/2019  | 31 @ South Bay           | Rearend      | 2      | PDO      | WB / WB                | Dry        | Following Too Closely       |
| 82         | 6/6/2019  | 31 - 14m W of Lakeshore  | Right Angle  | 2      | PDO      | NB Left / WB           | Dry        | Failure to Yield ROW        |
| 83         | 6/6/2019  | 31 @ South Bay           | Fixed Object | 1      | INJ      | WB / Ditch             | Dry        | Defective Brakes            |
| 84         | 5/16/2019 | 31 @ Lakeshore Spur      | Rearend      | 2      | PDO      | Unknown / Unknown      | Unknown    | Not Entered                 |
| 85         | 6/1/2019  | 31 @ Whiting             | Animal       | 1      | PDO      | WB / Animal            | Dry        | Animal's Action             |
| 86         | 6/14/2019 | 31 @ Pardee              | Fixed Object | 1      | PDO      | NB / Ditch             | Dry        | Passenger Distraction       |
| 87         | 6/20/2019 | 31 - 46m E of Pardee     | Right Angle  | 2      | PDO      | EB / NB Left           | Wet        | Failure to Yield ROW        |
| 88         | 6/18/2019 | 31 - 56m W of Crabtree   | Rearend      | 2      | PDO      | EB / EB Stopped        | Dry        | Driver Inattention          |
| 89         | 6/20/2019 | 31 @ I-81 SB             | Rearend      | 2      | PDO      | EB / EB Stopped        | Wet        | Following Too Closely       |
| 90         | 6/28/2018 | 31 @ I-81 SB             | Rearend      | 2      | PDO      | SB / SB                | Dry        | Driver Inattention          |
| 91         | 7/3/2019  | 31 - MM 31 33091257      | Right Angle  | 2      | PDO      | NB Left / WB           | Dry        | Failure to Yield ROW        |
| 92         | 7/2/2019  | 31 @ Lakeshore           | Rearend      | 2      | PDO      | SW / SW                | Dry        | Driver Inattention          |
| 93         | 7/1/2019  | 31 - 15m W of Crabtree   | Overtaking   | 2      | PDO      | WB Changing Lanes / WB | dry        | Unsafe Lane Change          |
| 94         | 7/8/2019  | 31 - 81m W of Boyko Farm | Rearend      | 2      | INJ      | WB / WB                | Dry        | Following Too Closely       |
| 95         | 7/10/2019 | 31 @ I-81 SB             | Rearend      | 3      | PDO      | EB / EB Stopped (2)    | Dry        | Following Too Closely       |
| 96         | 7/8/2019  | Parking Lot              | Backing      | 2      | PDO      | Backing / NB Parked    | Dry        | Backing Unsafely            |
| 97         | 7/10/2019 | 31 - 89m W of Pardee     | Overtaking   | 2      | PDO      | WB Changing Lanes / WB | Dry        | Unsafe Lane Change          |
| 98         | 6/13/2019 | Parking Lot              | Rearend      | 2      | PDO      | NB / NB                | Dry        | Not Entered                 |
| 99         | 7/17/2019 | 31 @ Route 11            | Rearend      | 2      | INJ      | WB / WB                | Wet        | Following Too Closely       |
| 100        | 7/4/2019  | 31 @ South Bay           | Rearend      | 2      | PDO      | SB / SB                | Dry        | Following Too Closely       |
| 101        | 7/22/2019 | 31 @ Route 11            | Left Turn    | 2      | PDO      | WB Left / EB           | Wet        | Traffic Control Disregarded |
| 102        | 6/29/2019 | 31 @ South Bay           | Animal       | 1      | PDO      | WB / Deer              | Dry        | Animal's Action             |
| 103        | 7/22/2019 | 31 @ Route 11            | Rearend      | 2      | PDO      | EB / EB                | Wet        | Following Too Closely       |
| 104        | 7/25/2019 | 31 - 18m E of Button     | Head On      | 2      | INJ      | WB / EB                | Dry        | Fell Asleep                 |
| 105        | 7/26/2019 | 31 @ Route 11            | Rearend      | 2      | PDO      | EB / EB                | Dry        | Following Too Closely       |
| 106        | 7/25/2019 | 31 @ Lakeshore           | Rearend      | 2      | INJ      | SW / SW Stopped        | Dry        | Following Too Closely       |
| 107        | 7/29/2019 | 31 @ Elta                | Bicyclist    | 1      | PDO      | NB / WB Bicycle        | Dry        | Failure to Yield ROW        |
| 108        | 7/30/2019 | 31 @ Lakeshore           | Rearend      | 2      | PDO      | SW / SW Stopped        | Dry        | Following Too Closely       |
| 109        | 7/29/2019 | 31 @ Thompson            | Rearend      | 3      | INJ      | EB / EB Stopped (2)    | Dry        | Following Too Closely       |
| 110        | 7/25/2019 | 31 @ Route 11            | Left Turn    | 2      | PDO      | SB Left / NB Right     | Wet        | Failure to Yield ROW        |
| 111        | 7/17/2019 | 31 @ South Bay           | Rearend      | 2      | PDO      | WB / WB Stopped        | Wet        | Following Too Closely       |
| 112        | 7/31/2019 | 31 - 90m W of Crabtree   | Right Angle  | 2      | PDO      | WB / NB Left           | Dry        | Failure to Yield ROW        |
| 113        | 7/3/2019  | 31 @ Route 11            | Rearend      | 2      | INJ      | SB / SB Stopped        | Dry        | Driver Inattention          |
| 114        | 7/24/2019 | 31 @ Lakeshore           | Rearend      | 2      | PDO      | WB / WB Stopped        | Dry        | Driver Inattention          |



| Accident # | Date       | Location                  | Type          | # Cars | Severity | Direction                     | Conditions | Contributing Factors    |
|------------|------------|---------------------------|---------------|--------|----------|-------------------------------|------------|-------------------------|
| 115        | 8/2/2019   | 31 @ Route 11             | Right Turn    | 2      | PDO      | EB Right / EB Left            | Dry        | Failure to Keep Right   |
| 116        | 8/10/2019  | 31 @ South Bay            | Rearend       | 2      | PDO      | NB / NB                       | Dry        | Driver Inattention      |
| 117        | 8/8/2019   | 31 - 24m E of Eastwood    | Rearend       | 2      | PDO      | WB / WB Stopped               | Dry        | Speed Unsafe            |
| 118        | 8/16/2019  | 31 @ Pardee               | Right Angle   | 2      | INJ      | NB Left / WB                  | Wet        | Failure to Yield ROW    |
| 119        | 7/20/2019  | 31 @ Route 11             | Backing       | 2      | PDO      | WB Backing / SB Right         | Dry        | Not Entered             |
| 120        | 8/13/2019  | 31 @ Thompson             | Rearend       | 2      | PDO      | WB / WB Stopped               | Dry        | Following Too Closely   |
| 121        | 8/16/2019  | 31 @ Pardee               | Overtaking    | 3      | INJ      | EB Changing Lanes / EB (2)    | Wet        | Outside Car Distraction |
| 122        | 8/19/2019  | 31 @ I-81 SB              | Right Angle   | 2      | PDO      | EB / SB left                  | Dry        | Failure to Yield ROW    |
| 123        | 8/20/2019  | 31 - 61m E of Pardee      | Right Angle   | 2      | PDO      | WB / NB Left                  | Dry        | Failure to Yield ROW    |
| 124        | 8/20/2019  | 31 - 139m E of Pardee     | Overtaking    | 2      | PDO      | EB Changing Lanes / EB        | Dry        | Unsafe Lane Change      |
| 125        | 8/16/2019  | 31 - 17m E of Whiting     | Fixed Object  | 1      | INJ      | NB Right / Sign Post          | Dry        | Illegal Drugs           |
| 126        | 8/25/2019  | 31 - 15m E of Doreen      | Rearend       | 2      | PDO      | WB Left / WB                  | Dry        | Following Too Closely   |
| 127        | 8/25/2019  | 31 @ Pardee               | Right Angle   | 4      | INJ      | NB Left / WB / SB Stopped (2) | Dry        | Failure to Yield ROW    |
| 128        | 8/28/2019  | 31 @ Lakeshore            | Rearend       | 2      | INJ      | SW / SW Stopped               | Wet        | Following Too Closely   |
| 129        | 8/30/2019  | 31 @ I-81 SB              | Left Turn     | 2      | PDO      | WB / WB Left                  | Dry        | Unsafe Lane Change      |
| 130        | 8/30/2019  | Parking Lot               | Backing       | 2      | PDO      | SB Backing / NB Parked        | Dry        | Backing Unsafely        |
| 131        | 8/28/2019  | 31 - 66m E of Route 11    | Rearend       | 2      | PDO      | EB / EB                       | Dry        | Following Too Closely   |
| 132        | 9/3/2019   | 31 @ Lakeshore            | Rearend       | 2      | PDO      | EB / EB Stopped               | Dry        | Following Too Closely   |
| 133        | 9/4/2019   | 31 @ Lakeshore            | Rearend       | 2      | PDO      | SB / SB Stopped               | Dry        | Driver Inattention      |
| 134        | 9/9/2019   | 31 @ I-81 SB              | Rearend       | 2      | PDO      | SB / SB Stopped               | Dry        | Improper Lane Usage     |
| 135        | 8/24/2019  | 31 @ Route 11             | Rearend       | 2      | PDO      | EB / EB                       | Dry        | Following Too Closely   |
| 136        | 9/5/2019   | 31 - 18m W of Damon       | Rearend       | 2      | PDO      | WB / WB                       | Dry        | Following Too Closely   |
| 137        | 9/6/2019   | 31 @ South Bay            | Rearend       | 4      | PDO      | WB / WB Stopped (3)           | Dry        | Following Too Closely   |
| 138        | 9/13/2019  | 31 - 15m E of Lakeshore   | Rearend       | 2      | PDO      | EB / EB                       | Dry        | Following Too Closely   |
| 139        | 8/17/2019  | 31 - 16m E of I-81        | Overtaking    | 2      | PDO      | EB Changing Lanes / EB        | Dry        | Unsafe Lane Change      |
| 140        | 9/17/2019  | 31 @ Thompson             | Right Angle   | 2      | PDO      | NB / WB Right                 | Dry        | Failure to Yield ROW    |
| 141        | 9/20/2019  | 31 @ Route 11             | Right Angle   | 2      | PDO      | EB / SB left                  | Dry        | Failure to Yield ROW    |
| 142        | 9/3/2019   | 31 @ Pardee               | Rearend       | 2      | INJ      | EB / EB Stopped               | Dry        | Not Entered             |
| 143        | 9/25/2019  | Parking Lot               | Fixed Object  | 1      | PDO      | WB Backing / Utility Pole     | Dry        | Driver Inattention      |
| 144        | 9/26/2019  | 31 - 30m W of Lakeshore   | Rearend       | 2      | PDO      | WB / WB Stopped               | Wet        | Following Too Closely   |
| 145        | 9/28/2019  | 31 @ Lakeshore            | Overtaking    | 2      | PDO      | WB Right / WB                 | Wet        | Failure to Yield ROW    |
| 146        | 9/27/2019  | 31 - 99m E of New Country | Rearend       | 2      | PDO      | WB / WB                       | Dry        | Following Too Closely   |
| 147        | 10/5/2019  | 31 @ Route 11             | Rearend       | 2      | PDO      | WB / WB Stopped               | Dry        | Following Too Closely   |
| 148        | 9/25/2019  | 31 @ Pardee               | Non Collision | 1      | PDO      | WB                            | Dry        | Defective Pavement      |
| 149        | 10/12/2019 | 31 - 76m W of New Country | Rearend       | 2      | PDO      | WB / WB Stopped               | Wet        | Following Too Closely   |
| 150        | 10/7/2019  | 31 @ Route 11             | Overtaking    | 2      | PDO      | WB / WB Stopped               | Wet        | Pavement Slippery       |
| 151        | 10/15/2019 | 31 @ Route 11             | Right Turn    | 2      | PDO      | WB Right / WB Right           | Dry        | Failure to Yield ROW    |
| 152        | 10/17/2019 | 31 @ Button               | Fixed Object  | 1      | PDO      | NB Right / Utility Pole       | Wet        | Pavement Slippery       |



| Accident # | Date       | Location                  | Type         | # Cars | Severity | Direction              | Conditions | Contributing Factors        |
|------------|------------|---------------------------|--------------|--------|----------|------------------------|------------|-----------------------------|
| 153        | 10/23/2019 | 31 @ Pardee               | Rearend      | 2      | PDO      | NB / NB Stopped        | Dry        | Following Too Closely       |
| 154        | 10/8/2019  | 31 @ Pardee               | Rearend      | 2      | PDO      | WB / WB                | Dry        | View Obstructed             |
| 155        | 10/31/2019 | 31 @ Route 11             | Overtaking   | 2      | PDO      | NB Changing Lanes / NB | Wet        | Unsafe Lane Change          |
| 156        | 10/30/2019 | 31 @ I-81 SB              | Right Angle  | 2      | PDO      | SB Left / WB           | Dry        | Failure to Yield ROW        |
| 157        | 11/2/2019  | 31 - 33m W of Fergerson   | Animal       | 2      | PDO      | WB / WB / Deer         | Dry        | Animal's Action             |
| 158        | 7/31/2019  | 31 @ Lakeshore            | Rearend      | 2      | PDO      | WB / WB                | Dry        | Following Too Closely       |
| 159        | 11/6/2019  | 31 @ Lakeshore            | Rearend      | 2      | INJ      | WB / WB Stopped        | Dry        | Following Too Closely       |
| 160        | 11/2/2019  | 31 - 749m E of Whiting    | Animal       | 1      | PDO      | WB / Deer              | Dry        | Animal's Action             |
| 161        | 11/9/2019  | 31 @ Thompson             | Rearend      | 2      | PDO      | WB / WB Left           | Dry        | Following Too Closely       |
| 162        | 11/6/2019  | 31 - 52M E of Doreen      | Left Turn    | 2      | PDO      | SB Left / WB           | Dry        | Failure to Yield ROW        |
| 163        | 11/11/2019 | 31 - 457m W of Cic Center | Animal       | 1      | PDO      | WB / Deer              | Wet        | Animal's Action             |
| 164        | 11/8/2019  | 31 - 91m E of Pardee      | Rearend      | 2      | PDO      | WB / WB Stopped        | Dry        | Speed Unsafe                |
| 165        | 11/12/2019 | 31 - 24m E of Elta        | Rearend      | 2      | PDO      | EB / EB Stopped        | Snow / Ice | Pavement Slippery           |
| 166        | 11/15/2019 | 31 @ Pardee               | Right Angle  | 3      | PDO      | NB Left / WB (2)       | Dry        | Failure to Yield ROW        |
| 167        | 11/15/2019 | 31 @ Pardee               | Right Angle  | 2      | INJ      | NB Left / WB           | Dry        | Failure to Yield ROW        |
| 168        | 11/15/2019 | 31 @ Route 11             | Left Turn    | 2      | PDO      | NB Left / WB Left      | Dry        | Traffic Control Disregarded |
| 169        | 11/15/2019 | 31 @ Route 11             | Overtaking   | 2      | PDO      | EB Changing Lanes / EB | Dry        | Unsafe Lane Change          |
| 170        | 11/12/2019 | 31 - 76m E of Pardee      | Fixed Object | 1      | PDO      | EB Right / Sign Post   | Wet        | Pavement Slippery           |
| 171        | 11/18/2019 | 31 - 57m W of Boyko Farm  | Rearend      | 2      | PDO      | EB / EB                | Dry        | Following Too Closely       |
| 172        | 11/18/2019 | 31 - 49m W of Sandra      | Animal       | 1      | PDO      | WB / Deer              | Dry        | Animal's Action             |
| 173        | 11/19/2019 | 31 @ Route 11             | Sideswipe    | 2      | PDO      | WB / EB                | Dry        | Driver Inattention          |
| 174        | 11/20/2019 | 31 @ Bokyo Farm           | Rearend      | 2      | INJ      | WB / WB Stopped        | Dry        | Following Too Closely       |
| 175        | 11/21/2019 | Parking Lot               | Rearend      | 2      | INJ      | WB / WB Parked         | Dry        | Driver Inattention          |
| 176        | 11/15/2019 | 31 @ Route 11             | Overtaking   | 2      | PDO      | NB / NB Changing Lanes | Dry        | Unsafe Lane Change          |
| 177        | 11/23/2019 | 31 @ Route 11             | Rearend      | 2      | PDO      | EB / EB                | Dry        | Following Too Closely       |
| 178        | 11/19/2019 | 31 @ South Bay            | Rearend      | 2      | PDO      | NB / NB                | Dry        | Following Too Closely       |
| 179        | 11/26/2019 | 31 @ Route 11             | Right Angle  | 2      | PDO      | SB / WB Left           | Dry        | Improper Turn               |
| 180        | 11/29/2019 | 31 - 91m E of Pardee      | Left Turn    | 2      | PDO      | NB Left / WB           | Wet        | Failure to Yield ROW        |
| 181        | 11/29/2019 | 31 - 30m E of Thompson    | Fixed Object | 1      | PDO      | EB / Culvert           | Wet        | Fell Asleep                 |
| 182        | 11/22/2019 | 31 - 30m W of Route 11    | Overtaking   | 2      | PDO      | WB / WB                | Wet        | Fatigue                     |
| 183        | 11/30/2019 | 31 - 30m E of Pardee      | Overtaking   | 2      | PDO      | EB Right / EB          | Dry        | Improper Turn               |
| 184        | 12/4/2019  | Parking Lot               | Sideswipe    | 2      | PDO      | WB / EB Parked         | Wet        | Driver Inexperience         |
| 185        | 12/3/2019  | 31 - 91m W of Damon       | Rearend      | 2      | PDO      | EB / EB                | wet        | Following Too Closely       |
| 186        | 12/6/2019  | 31 - 868m W of Eastwood   | Animal       | 1      | INJ      | WB / Deer              | Wet        | Animal's Action             |
| 187        | 12/6/2019  | 31 - 118m E of Lakeshore  | Fire         | 1      | PDO      | EB                     | Wet        | Other                       |
| 188        | 12/9/2019  | 31 - 61m E of Route 11    | Rearend      | 2      | PDO      | EB / EB                | Wet        | Following Too Closely       |
| 189        | 11/19/2019 | 31 @ Pardee               | Left Turn    | 2      | PDO      | EB Left / WB           | Dry        | Failure to Yield ROW        |
| 190        | 12/10/2019 | 31 @ Thompson             | Rearend      | 3      | INJ      | WB / WB Stopped (2)    | Wet        | Following Too Closely       |
| 191        | 11/24/2019 | 31 @ Route 11             | Left Turn    | 2      | PDO      | EB / WB Left           | Dry        | Failure to Yield ROW        |



| Accident # | Date       | Location                 | Type         | # Cars | Severity | Direction               | Conditions | Contributing Factors        |
|------------|------------|--------------------------|--------------|--------|----------|-------------------------|------------|-----------------------------|
| 192        | 12/14/2019 | Parking Lot              | Backing      | 2      | PDO      | SB Backing / WB Parked  | Snow / Ice | Backing Unsafely            |
| 193        | 12/18/2019 | 31 @ Button              | Fixed Object | 1      | PDO      | WB / Culvert            | Snow / Ice | Reaction to Another Vehicle |
| 194        | 12/19/2019 | 31 @ Lakeshore           | Fixed Object | 1      | PDO      | SB Left / Fence         | Wet        | Traffic Control Disregarded |
| 195        | 12/19/2019 | 31 @ Thompson            | Right Angle  | 2      | PDO      | NB Left / WB            | Snow / Ice | Improper Passing            |
| 196        | 12/18/2019 | 31 - 26m E of South Bay  | Fixed Object | 1      | PDO      | WB Left / Sign Post     | Snow / Ice | Pavement Slippery           |
| 197        | 12/23/2019 | 31 @ South Bay           | Rearend      | 3      | INJ      | SB / SB Stopped (2)     | Dry        | Glare                       |
| 198        | 12/14/2019 | 31 @ Doreen              | Pedestrian   | 1      | PDO      | WB Left / Pedestrian    | Wet        | Failure to Yield ROW        |
| 199        | 12/27/2019 | Cicero Center N of 31    | Animal       | 1      | PDO      | SB / Deer               | Wet        | Animal's Action             |
| 200        | 1/1/2020   | 31 @ Lakeshore           | Animal       | 1      | PDO      | EB / Deer               | Dry        | Animal's Action             |
| 201        | 11/11/2019 | 31 @ I-81 SB             | Rearend      | 2      | PDO      | Unknown / Unknown       | Unknown    | Not Entered                 |
| 202        | 1/9/2020   | 31 @ Crabtree            | Rearend      | 2      | INJ      | WB / WB Stopped         | Dry        | Following Too Closely       |
| 203        | 1/2/2020   | 31 @ Route 11            | Overtaking   | 2      | PDO      | WB / WB                 | Dry        | Passing Improperly          |
| 204        | 1/10/2019  | 31 @ Thompson            | Rearend      | 2      | PDO      | EB / EB Stopped         | Wet        | Following Too Closely       |
| 205        | 1/8/2020   | 31 @ Pardee              | Sideswipe    | 2      | PDO      | WB / NB Left            | Snow / Ice | Improper Turn               |
| 206        | 1/12/202   | 31 @ Crabtree            | Right Angle  | 2      | PDO      | NE Right / EB Stopped   | Dry        | Cell Phone                  |
| 207        | 1/13/2020  | 31 - 51m W of Sandra     | Fixed Object | 1      | PDO      | WB / Ditch              | Dry        | Alcohol Involvement         |
| 208        | 1/16/2020  | 31 - 749m E of Whiting   | Fixed Object | 1      | PDO      | EB / Guide Rail         | Snow / Ice | Reaction to Another Vehicle |
| 209        | 1/15/2020  | 31 - 15m W of Sandra     | Rearend      | 2      | PDO      | WB / WB Stopped         | Dry        | Following Too Closely       |
| 210        | 1/18/2019  | 31 - 33m E of Pardee     | Rearend      | 2      | PDO      | EB / EB                 | Dry        | Following Too Closely       |
| 211        | 1/25/2020  | 274m E of Whiting        | Other        | 1      | PDO      | WB                      | Wet        | Driver Inattention          |
| 212        | 1/21/2020  | 31 @ Route 11            | Head On      | 3      | PDO      | WB / EB Stopped (2)     | Dry        | Failure to Keep Right       |
| 213        | 1/28/2020  | 31 - 78m E of Pardee     | Pedestrian   | 1      | INJ      | NB Right / Pedestrian   | Wet        | Driver Inattention          |
| 214        | 1/31/2020  | 31 @ Pardee              | Right Angle  | 2      | INJ      | NB Left / WB            | Dry        | Failure to Yield ROW        |
| 215        | 1/29/2020  | 31 @ New Country         | Rearend      | 2      | PDO      | EB / EB                 | Dry        | Following Too Closely       |
| 216        | 1/29/2020  | Parking Lot              | Pedestrian   | 1      | INJ      | NB Backing / Pedestrian | Dry        | Backing Unsafely            |
| 217        | 2/6/2020   | 31 @ Crabtree            | Overtaking   | 2      | PDO      | EB Changing Lanes / EB  | Wet        | Unsafe Lane Change          |
| 218        | 2/7/2020   | 31 - 30m W of Lakeshore  | Right Turn   | 2      | PDO      | WB / WB Right           | Snow / Ice | Passing Improperly          |
| 219        | 2/8/2020   | 31 @ Pardee              | Overtaking   | 2      | PDO      | NB Left / NB Left       | Wet        | Improper Turn               |
| 220        | 2/4/2020   | Midblock Route 31        | Sideswipe    | 2      | PDO      | EB Right / NB           | Wet        | Failure to Yield ROW        |
| 221        | 2/10/2020  | 31 @ Lakeshore Spur      | Rearend      | 2      | PDO      | WB / WB Stopped         | Wet        | Following Too Closely       |
| 222        | 2/9/2020   | 31 @ Thompson            | Rearend      | 2      | PDO      | WB / WB Stopped         | Wet        | Following Too Closely       |
| 223        | 2/10/2020  | 31 - MM 31 33091257      | Fixed Object | 1      | PDO      | WB / Fence              | Snow / Ice | Driver Inattention          |
| 224        | 2/12/2020  | 31 - 30m E of Pardee     | Other        | 1      | PDO      | SB                      | Dry        | Driver Inexperience         |
| 225        | 2/12/2020  | 31 - 126m W of Lakeshore | Right Angle  | 2      | INJ      | SB Left / WB            | Dry        | Failure to Yield ROW        |
| 226        | 2/12/2020  | 31 @ Route 11            | Rearend      | 2      | PDO      | WB / WB Stopped         | Dry        | Following Too Closely       |
| 227        | 2/13/2020  | 31 @ New Country         | Rearend      | 3      | PDO      | WB / WB Stopped (2)     | Wet        | Following Too Closely       |
| 228        | 2/7/2020   | 31 @ Thompson            | Rearend      | 2      | PDO      | WB / WB                 | Snow / Ice | Pavement Slippery           |
| 229        | 2/17/2020  | 31 @ CNS Driveway        | Rearend      | 2      | PDO      | EB / EB Stopped         | Dry        | Driver Inattention          |
| 230        | 2/18/2020  | 31 - 17m E of Pardee     | Rearend      | 3      | INJ      | EB / EB / EB Stopped    | Snow / Ice | Following Too Closely       |



| Accident # | Date      | Location                   | Type          | # Cars | Severity | Direction               | Conditions | Contributing Factors        |
|------------|-----------|----------------------------|---------------|--------|----------|-------------------------|------------|-----------------------------|
| 231        | 2/19/2020 | 31 @ Route 11              | Rearend       | 2      | PDO      | WB / WB Stopped         | Dry        | Following Too Closely       |
| 232        | 3/1/2020  | 31 @ Whiting               | Non Collision | 1      | PDO      | EB                      | Dry        | Tire Failure                |
| 233        | 3/1/2020  | 31 - 91m E of South Bay    | Rearend       | 2      | INJ      | WB Left / WB            | Snow / Ice | Following Too Closely       |
| 234        | 2/27/2020 | 31 - 136m W of New Country | Rearend       | 3      | PDO      | WB /WB Stopped (2)      | Wet        | Following Too Closely       |
| 235        | 3/4/2020  | 31 - 15m E of Pardee       | Overtaking    | 2      | PDO      | WB Changing Lanes / WB  | Dry        | Unsafe Lane Change          |
| 236        | 3/13/2020 | 31 - 46m E of Cic Center   | Animal        | 1      | PDO      | WB / Animal             | Wet        | Animal's Action             |
| 237        | 3/20/2020 | 31 - 868m E of Cic Center  | Fixed Object  | 1      | PDO      | Eb / Ditch              | Dry        | Alcohol Involvement         |
| 238        | 3/19/2020 | 31 @ Route 11              | Rearend       | 2      | INJ      | NB / NB Stopped         | Dry        | Following Too Closely       |
| 239        | 3/20/2020 | 31 @ Thompson              | Overtaking    | 2      | PDO      | WB / WB                 | Wet        | Passing Improperly          |
| 240        | 3/23/2020 | 31 - 185m E of Elta        | Rearend       | 2      | PDO      | EB / EB right           | Snow / Ice | Following Too Closely       |
| 241        | 3/23/2020 | 31 - 15m W of South Bay    | Fixed Object  | 1      | PDO      | EB / Snow Embankment    | Snow / Ice | Pavement Slippery           |
| 242        | 3/12/2020 | 31 @ Pardee                | Rearend       | 2      | PDO      | NB / NB                 | Dry        | Following Too Closely       |
| 243        | 3/21/2020 | 31 @ Lakeshore             | Rearend       | 2      | Non Rep  | SW / SW Stopped         | Other      | Driver Inattention          |
| 244        | 3/9/2020  | 31 @ Pardee                | Rearend       | 2      | PDO      | SB / SB Stopped         | Dry        | Following Too Closely       |
| 245        | 4/5/2020  | 31 @ Cicero Center         | Bicyclist     | 1      | INJ      | SB Right / Bike EB Left | Dry        | Failure to Yield ROW        |
| 246        | 4/19/2020 | 31 @ Route 11              | Left Turn     | 2      | PDO      | WB Left / EB            | Wet        | Failure to Yield ROW        |
| 247        | 4/22/2020 | 31 - 61m E of Route 11     | Right Angle   | 2      | PDO      | SB Left / WB            | Dry        | Failure to Yield ROW        |
| 248        | 4/25/2020 | 31 @ South Bay             | Rearend       | 2      | PDO      | WB / WB Left            | Dry        | Following Too Closely       |
| 249        | 4/28/2020 | 31 @ Route 11              | Rearend       | 2      | PDO      | EB / EB Stopped         | Dry        | Following Too Closely       |
| 250        | 4/24/2020 | 31 @ South Bay             | Rearend       | 2      | PDO      | EB / EB                 | Dry        | Following Too Closely       |
| 251        | 5/3/2020  | 31 - 70m E of Pardee       | Left Turn     | 2      | PDO      | WB left / WB            | Dry        | Failure to Yield ROW        |
| 252        | 5/2/2020  | Midblock Route 31          | Fixed object  | 1      | PDO      | WB                      | Dry        | Alcohol Involvement         |
| 253        | 5/20/2020 | 31 @ Lakeshore             | Right Angle   | 2      | INJ      | SB Right / WB           | Dry        | Failure to Yield ROW        |
| 254        | 6/1/2020  | 31 - 196m E of Whiting     | Animal        | 1      | PDO      | WB / Deer               | Dry        | Animal's Action             |
| 255        | 5/28/2020 | 31 @ Route 11              | Sideswipe     | 2      | PDO      | EB Left / WB            | Dry        | Traffic Signal Malfunction  |
| 256        | 6/10/2020 | 31 @ Cicero Center         | Overtaking    | 2      | PDO      | WB / WB Right           | Dry        | Passing Improperly          |
| 257        | 6/12/2020 | 31 @ South Bay             | Left Turn     | 2      | INJ      | NB Left / SB            | Dry        | Failure to Yield ROW        |
| 258        | 6/14/2020 | 31 @ Thompson              | Rearend       | 2      | PDO      | WB / WB Stopped         | Dry        | Following Too Closely       |
| 259        | 6/12/2020 | 31 - 55m E of Route 11     | Right Angle   | 2      | INJ      | NB Left / WB            | Dry        | Failure to Yield ROW        |
| 260        | 6/16/2020 | 31 @ Pardee                | Rearend       | 2      | INJ      | WB / WB Stopped         | Dry        | Driver Inattention          |
| 261        | 6/20/2020 | 31 - 33m E of Route 11     | Right Angle   | 2      | PDO      | NB / WB                 | Dry        | Driver Inattention          |
| 262        | 6/21/2020 | 31 @ Crabtree              | Backing       | 2      | PDO      | SB Backing / NB Stopped | Dry        | Backing Unsafely            |
| 263        | 6/7/2020  | 31 @ Eastwood              | Fixed Object  | 1      | PDO      | Unknown / Sign Post     | unknown    | Not Entered                 |
| 264        | 6/23/2020 | 31 @ I-81 SB               | Rearend       | 2      | PDO      | SB / SB                 | Dry        | Following Too Closely       |
| 265        | 7/1/2020  | 31 @ Lakeshore             | Right Angle   | 2      | PDO      | SW Left / WB            | Dry        | Failure to Yield ROW        |
| 266        | 7/5/2020  | 31 - 65m E of South Bay    | Rearend       | 2      | PDO      | WB / WB left            | Dry        | Following Too Closely       |
| 267        | 7/2/2020  | 31 - 74m W of Crabtree     | Rearend       | 2      | PDO      | EB / EB Stopped         | Dry        | Following Too Closely       |
| 268        | 7/9/2022  | 31 @ South Bay             | Right Angle   | 2      | INJ      | EB / SW                 | Dry        | Traffic Control Disregarded |
| 269        | 7/13/2020 | 31 @ I-81 SB               | Rearend       | 2      | PDO      | EB / EB Stopped         | Dry        | Following Too Closely       |



| Accident # | Date       | Location                  | Type         | # Cars | Severity | Direction              | Conditions | Contributing Factors             |
|------------|------------|---------------------------|--------------|--------|----------|------------------------|------------|----------------------------------|
| 270        | 7/2/2020   | 31 - 30m E of Pardee      | Overtaken    | 1      | INJ      | WB                     | Dry        | Reaction to Another Vehicle      |
| 271        | 7/18/2020  | 31 @ Route 11             | Rearend      | 2      | PDO      | NB / NB Stopped        | Dry        | Following Too Closely            |
| 272        | 7/22/2020  | 31 - 152m E of Whiting    | Fixed Object | 1      | PDO      | WB / Utility Pole      | Dry        | Fell Asleep                      |
| 273        | 7/29/2020  | 31 @ Lakeshore            | Left Turn    | 2      | INJ      | EB Left / SB Right     | Wet        | Improper Turn                    |
| 274        | 7/31/2020  | 31 @ Ferguson             | Rearend      | 2      | INJ      | WB / WB Stopped        | Dry        | Following Too Closely            |
| 275        | 7/27/2020  | Parking Lot               | Backing      | 2      | PDO      | WB Backing / SB Parked | Dry        | Backing Unsafely                 |
| 276        | 7/31/2020  | 31 @ I-81 SB              | Overtaking   | 2      | PDO      | EB Changing Lanes / EB | Dry        | Unsafe Lane Change               |
| 277        | 8/3/2020   | 31 - 61m E of Pardee      | Rearend      | 2      | PDO      | WB / WB Stopped        | Dry        | Following Too Closely            |
| 278        | 7/31/2020  | 31 - 110m W of Lakeshore  | Right Angle  | 2      | PDO      | NB Left / WB           | Dry        | Improper Turn                    |
| 279        | 8/9/2020   | 31 @ Lakeshore            | Rearend      | 2      | PDO      | SW / SW                | Dry        | Following Too Closely            |
| 280        | 8/12/2020  | 31 @ Crabtree             | Left Turn    | 2      | PDO      | WB Left / EB           | Dry        | Failure to Yield ROW             |
| 281        | 8/15/2020  | 31 @ Pardee               | Overtaking   | 2      | PDO      | EB Changing Lanes / EB | Dry        | Unsafe Lane Change               |
| 282        | 8/19/2020  | 31 @ South Bay            | Sideswipe    | 2      | PDO      | SB Left / NB           | Dry        | Driver Inexperience              |
| 283        | 8/19/2020  | Parking Lot               | Backing      | 2      | PDO      | NB Backing / NB Parked | Dry        | Backing Unsafely                 |
| 284        | 8/20/2020  | 31 @ Route 11             | Left Turn    | 2      | PDO      | SE Left / NB Right     | dry        | Failure to Yield ROW             |
| 285        | 8/2/2020   | 31 - 54m E of Pardee      | Overtaking   | 2      | PDO      | WB Changing Lanes / WB | Dry        | Unsafe Lane Change               |
| 286        | 8/22/2020  | 31 @ Pardee               | Overtaking   | 2      | PDO      | EB Changing Lanes / EB | Dry        | Unsafe Lane Change               |
| 287        | 8/15/2020  | 31 - 653m E of Whiting    | Fixed Object | 1      | INJ      | EB / Curb              | Dry        | Driver Inexperience              |
| 288        | 8/24/2020  | 31 - 96m W of Ferguson    | Fixed Object | 1      | INJ      | EB / Building          | Dry        | Unsafe Lane Change               |
| 289        | 8/19/2020  | Parking Lot               | Unknown      | 2      | PDO      | Unknown / NB Parked    | Dry        | Unknown                          |
| 290        | 8/28/2020  | Midblock Route 31         | Fixed Object | 1      | PDO      | SB / Guide Rail        | Dry        | Improper Lane Usage              |
| 291        | 9/3/2020   | 31 @ Pardee               | Left Turn    | 2      | PDO      | NB Left / SB           | Dry        | Failure to Yield ROW             |
| 292        | 8/27/2020  | 31 @ Pardee               | Rearend      | 2      | INJ      | EB / EB                | Wet        | Following Too Closely            |
| 293        | 9/3/2020   | 31 - 71m E of Route 11    | Right Angle  | 2      | PDO      | SB Left / EB           | Dry        | Failure to Yield ROW             |
| 294        | 9/4/2020   | 31 - 18m W of Damon       | Rearend      | 2      | PDO      | EB / EB                | Dry        | Following Too Closely            |
| 295        | 9/4/2020   | 31 @ Lakeshore Spur       | Rearend      | 2      | PDO      | WB / WB Stopped        | Dry        | Following Too Closely            |
| 296        | 9/9/2020   | 31 @ Thompson             | Right Angle  | 3      | INJ      | SB / EB / NB Stopped   | Dry        | Traffic Control Disregarded      |
| 297        | 9/9/2020   | 31 @ Pardee               | Bicyclist    | 1      | INJ      | EB Bike / NB           | Dry        | Traffic Control Disregarded      |
| 298        | 9/15/2020  | 31 @ South Bay            | Overtaking   | 2      | PDO      | EB / EB                | Dry        | Fail to Yeld / Unsafe lane usage |
| 299        | 9/25/2020  | 31 @ Route 11             | Rearend      | 2      | PDO      | WB / WB Stopped        | Dry        | Following Too Closely            |
| 300        | 9/23/2020  | 31 @ New Country          | Rearend      | 2      | PDO      | WB / WB Stopped        | Dry        | Following Too Closely            |
| 301        | 9/24/2020  | 31 @ I-81 SB              | Rearend      | 3      | PDO      | EB / EB Stopped (2)    | Dry        | Following Too Closely            |
| 302        | 9/25/2020  | 31 - 99m E of Lakeshore   | Rearend      | 2      | PDO      | EB / EB                | Dry        | Following Too Closely            |
| 303        | 9/27/2020  | 31 @ Route 11             | Rearend      | 2      | PDO      | NB / NB Stopped        | Dry        | Following Too Closely            |
| 304        | 10/1/2020  | 31 @ Lakeshore            | Right Angle  | 2      | INJ      | WB / SE Left           | Dry        | Failure to Yield ROW             |
| 305        | 9/9/2020   | 31 @ Route 11             | Pedestrian   | 1      | INJ      | NB Left / Pedestrian   | Dry        | Failure to Yield ROW             |
| 306        | 10/3/2020  | 31 @ South Bay            | Bicyclist    | 1      | INJ      | Bike SB Left / EB      | Dry        | Failure to Yield ROW             |
| 307        | 10/8/2020  | 31 @ I-81 SB              | Rearend      | 2      | INJ      | EB / EB                | Dry        | Following Too Closely            |
| 308        | 10/10/2020 | 31 - 749m E of Cic Center | Left Turn    | 2      | INJ      | WB / W Left            | Dry        | Improper Lane Usage              |



| Accident # | Date       | Location                  | Type         | # Cars | Severity | Direction              | Conditions | Contributing Factors        |
|------------|------------|---------------------------|--------------|--------|----------|------------------------|------------|-----------------------------|
| 309        | 10/9/2020  | 31 @ Pardee               | Overtaking   | 2      | PDO      | EB Changing Lanes (2)  | Dry        | Unsafe Lane Change          |
| 310        | 10/9/2020  | 31 @ Pardee               | Right Angle  | 2      | INJ      | WB / NB                | Dry        | Traffic Control Disregarded |
| 311        | 10/12/2020 | 31 @ South Bay            | Right Angle  | 2      | PDO      | WB / SB                | Dry        | Traffic Control Disregarded |
| 312        | 10/13/2020 | 31 @ Pardee               | Overtaking   | 2      | PDO      | EB Changing Lanes / EB | Dry        | Unsafe Lane Change          |
| 313        | 10/10/2020 | 31 @ Pardee               | Right Angle  | 2      | PDO      | NB Right / EB          | Dry        | Traffic Control Disregarded |
| 314        | 10/14/2020 | Midblock Route 31         | Fixed Object | 1      | PDO      | EB / Ditch             | Dry        | Other Vehicle               |
| 315        | 10/16/2020 | 31 @ Route 11             | Overtaking   | 2      | PDO      | SB / SB Stopped        | Dry        | Unsafe Lane Change          |
| 316        | 10/25/2020 | 31 @ Pardee               | Rearend      | 2      | PDO      | WB / WB Stopped        | Dry        | Following Too Closely       |
| 317        | 10/29/2020 | 31 - Near Damon           | Fixed Object | 1      | PDO      | WB / Ditch             | Wet        | Following Too Closely       |
| 318        | 10/24/2020 | 31 - 66m W of Crabtree    | Right Angle  | 2      | INJ      | SB Left / EB           | Dry        | Failure to Yield ROW        |
| 319        | 11/3/2020  | 31 - 805m E of Whiting    | Animal       | 1      | PDO      | WB / Deer              | Wet        | Animal's Action             |
| 320        | 11/4/2020  | 31 - 30m E of Pardee      | Right Angle  | 2      | PDO      | NB Left / WB           | Dry        | Failure to Yield ROW        |
| 321        | 11/6/2020  | 31 @ Lakeshore Spur       | Rearend      | 2      | PDO      | WB / WB Stopped        | Dry        | Following Too Closely       |
| 322        | 11/6/2020  | 31 - 40m E of Pardee      | Right Angle  | 2      | INJ      | NB Left / WB           | Dry        | Failure to Yield ROW        |
| 323        | 11/7/2020  | 31 - 152m E of Elta       | Fixed Object | 1      | PDO      | WB / Utility Pole      | Dry        | Eating or Drinking          |
| 324        | 11/3/2020  | Parking Lot               | Head On      | 2      | PDO      | SB / NB Parked         | Dry        | Illegal Drugs               |
| 325        | 11/10/2020 | 31 - 30m E of Route 11    | Rearend      | 3      | PDO      | EB / EB / EB           | Dry        | Following Too Closely       |
| 326        | 11/11/2020 | 31 @ Route 11             | Rearend      | 2      | PDO      | WB / WB                | Wet        | Following Too Closely       |
| 327        | 11/9/2020  | 31 - 860m E of Cic Center | Animal       | 1      | PDO      | WB / Deer              | Dry        | Animal's Action             |
| 328        | 11/13/2020 | 31 - 36m W of Crabtree    | Overtaking   | 2      | PDO      | WB Changing Lanes / WB | Dry        | Unsafe Lane Change          |
| 329        | 11/12/2020 | Parking Lot               | Backing      | 2      | PDO      | SB Backing / WB        | Dry        | Backing Unsafely            |
| 330        | 11/13/2020 | Parking Lot               | Backing      | 2      | PDO      | SB Backing / SB Parked | Dry        | Backing Unsafely            |
| 331        | 11/15/2020 | 31 - 805m E of Whiting    | Animal       | 1      | PDO      | WB / Deer              | Wet        | Animal's Action             |
| 332        | 11/15/2020 | 31 - 61m E of Pardee      | Overtaking   | 2      | INJ      | WB Changing Lanes / WB | Wet        | Unsafe Lane Change          |
| 333        | 10/29/2020 | 31 @ New Country          | Rearend      | 2      | PDO      | WB / WB Stopped        | Wet        | Following Too Closely       |
| 334        | 11/17/2020 | 31 @ Thompson             | Rearend      | 2      | INJ      | WB / WB                | Wet        | Unsafe Speed                |
| 335        | 12/4/2020  | 31 - 87m E of Route 11    | Overtaking   | 2      | INJ      | WB Changing Lanes / WB | Wet        | Unsafe Lane Change          |
| 336        | 1/8/2021   | 31 @ Route 11             | Right Angle  | 2      | PDO      | WB Right / SB Stopped  | Dry        | Unsafe Speed                |
| 337        | 12/16/2020 | 31 - 57m W of Crabtree    | Overtaking   | 2      | PDO      | EB Changing Lanes / EB | Snow / Ice | Unsafe Lane Change          |
| 338        | 11/27/2020 | 31 @ Route 11             | Overtaking   | 2      | PDO      | EB Changing Lanes / EB |            | Unsafe Lane change          |
| 339        | 12/26/2020 | 31 - 23m W of Crabtree    | Right Angle  | 2      | PDO      | SB Left / EB           | Dry        | Failure to Yield ROW        |
| 340        | 12/23/2020 | 31 @ I-81 SB              | Left Turn    | 2      | PDO      | WB Left / EB           | Dry        | Failure to Yield ROW        |
| 341        | 12/21/2020 | 31 / 23m W of Lakeshore   | Right Turn   | 2      | PDO      | EB / EB Right          | Wet        | Passing Improperly          |
| 342        | 1/2/2021   | 31 @ Thompson             | Rearend      | 3      | PDO      | SB / SB Stopped (2)    | Dry        | Brakes Defective            |
| 343        | 1/12/2021  | 31 @ Lakeshore            | Rearend      | 2      | PDO      | SW / SW Stopped        | Dry        | Failure to Yield ROW        |
| 344        | 11/10/2020 | Midblock Route 31         | Fixed object | 1      | PDO      | NW / Fixed Object      | Dry        | Driver Inattention          |
| 345        | 11/25/2020 | Parking Lot               | Backing      | 2      | PDO      | NB Backing / SB Parked | Dry        | Backing Unsafely            |
| 346        | 11/27/2020 | 31 @ Route 11             | Rearend      | 2      | INJ      | WB / WB Stopped        | Dry        | Following Too Closely       |
| 347        | 11/30/2020 | 31 - 70m W of Crabtree    | Rearend      | 3      | PDO      | EB / EB / EB Stopped   | Wet        | Following Too Closely       |



| Accident # | Date       | Location                   | Type         | # Cars | Severity | Direction                          | Conditions | Contributing Factors  |
|------------|------------|----------------------------|--------------|--------|----------|------------------------------------|------------|-----------------------|
| 348        | 12/1/2020  | 31 @ New Country           | Rearend      | 3      | PDO      | EB / EB Stopped (2)                | Wet        | Following Too Closely |
| 349        | 12/3/2020  | 31 - 30m W of Carbtree     | Rearend      | 2      | PDO      | EB / EB                            | Dry        | Following Too Closely |
| 350        | 12/3/2020  | 31 @ Pardee                | Rearend      | 2      | PDO      | WB / WB Stopped                    | dry        | Following Too Closely |
| 351        | 2/16/2021  | 31 @ Route 11              | Sideswipe    | 2      | PDO      | WB / W Left                        | Snow / Ice | Driver Inattention    |
| 352        | 2/12/2021  | 31 - 483m E of Whiting     | Animal       | 1      | PDO      | WB / Deer                          | Dry        | Animal's Action       |
| 353        | 1/30/2021  | 31 @ Pardee                | Rearend      | 3      | PDO      | EB / EB Stopped (2)                | Dry        | Following Too Closely |
| 354        | 1/27/2021  | 31 @ South Bay             | Right Angle  | 2      | PDO      | SB Left / EB                       | Wet        | Failure to Yield ROW  |
| 355        | 1/25/2021  | 31 - 61m W of Thompson     | Rearend      | 2      | INJ      | WB / WB Stopped                    | Dry        | Following Too Closely |
| 356        | 1/22/2021  | 31 - 106m E of New Country | Fixed Object | 1      | PDO      | EB / Ditch                         | Snow / Ice | Pavement Slippery     |
| 357        | 1/22/2021  | 31 @ Route 11              | Rearend      | 2      | PDO      | EB / EB Stopped                    | Snow / Ice | Following Too Closely |
| 358        | 1/22/2021  | 31 @ South Bay             | Rearend      | 2      | PDO      | EB / EB Stopped                    | Snow / Ice | Following Too Closely |
| 359        | 1/22/2021  | 31 @ Lakeshore             | Rearend      | 3      | PDO      | EB / EB Stopped (2)                | Snow / Ice | Following Too Closely |
| 360        | 1/10/2021  | 31 - 17m W of Lakeshore    | Fixed Object | 1      | PDO      | WB / Sign Post                     | Dry        | Alcohol Involvement   |
| 361        | 1/8/2021   | 31 - 19m W of Crabtree     | Left Turn    | 2      | PDO      | SB Left / WB                       | Dry        | Unsafe Lane Change    |
| 362        | 11/30/2020 | 31 @ Route 11              | Rearend      | 2      | INJ      | WB / WB Stopped                    | Dry        | Following Too Closely |
| 363        | 12/12/2020 | 31 - 39m W of Crabtree     | Left Turn    | 2      | PDO      | SB Left / EB                       | Wet        | Failure to Yield ROW  |
| 364        | 12/17/2020 | 31 - 100 M E of South Bay  | Overtaking   | 2      | PDO      | WB / WB                            | Snow / Ice | Unsafe Speed          |
| 365        | 12/17/2020 | 31 @ South Bay             | Rearend      | 2      | PDO      | WB / WB Stopped                    | Wet        | Unsafe Speed          |
| 366        | 12/15/2020 | 31 @ Pardee                | Rearend      | 2      | PDO      | WB / WB                            | Dry        | Following Too Closely |
| 367        | 2/26/2021  | 31 @ South Bay             | Left Turn    | 2      | INJ      | WB Left / EB                       | Dry        | Failure to Yield ROW  |
| 368        | 2/23/2021  | 31 @ Pardee                | Rearend      | 2      | INJ      | WB / WB Stopped                    | Wet        | Driver Inattention    |
| 369        | 2/17/2021  | 31 - 30m W of Cic Center   | Overtaking   | 2      | PDO      | WB / W Left                        | Dry        | Improper Lane Usage   |
| 370        | 3/9/2021   | 31 @ Lakeshore Spur        | Rearend      | 2      | PDO      | WB / WB Stopped                    | Dry        | Following Too Closely |
| 371        | 3/19/2021  | 31 @ Crabtree              | Overtaking   | 2      | PDO      | EB Changing Lanes / EB Right       | Dry        | Not entered           |
| 372        | 3/23/2021  | 31 @ Thompson              | Rearend      | 2      | PDO      | WB / WB Stopped                    | Dry        | Following Too Closely |
| 373        | 4/3/2021   | 31 @ Lakeshore             | Rearend      | 2      | PDO      | WB / WB                            | Dry        | Road Rage             |
| 374        | 3/16/2021  | 31 @ Route 11              | Overtaking   | 2      | PDO      | WB / WB                            | Dry        | Not entered           |
| 375        | 4/8/2021   | 31 @ Pardee                | Overtaking   | 2      | PDO      | WB Changing Lanes - WB             | Dry        | Unsafe Lane Change    |
| 376        | 1/30/2021  | 31 @ Pardee                | Rearend      | 2      | INJ      | WB / WB Stopped                    | Wet        | Following Too Closely |
| 377        | 3/31/2021  | Midblock Route 31          | Overtaking   | 2      | PDO      | WB / W Uturn                       | Wet        | Unsafe Lane Change    |
| 378        | 4/12/2021  | 31 @ Route 11              | Rearend      | 2      | PDO      | WB / WB Stopped                    | Wet        | Following Too Closely |
| 379        | 4/13/2021  | 31 @ Thompson              | Right Turn   | 2      | PDO      | WB Right / NB                      | Dry        | Failure to Yield ROW  |
| 380        | 4/14/2021  | 31 - 30m E of Route 11     | Overtaking   | 3      | PDO      | EB Changing Lanes / EB Stopped (2) | Dry        | Unsafe Lane Change    |
| 381        | 4/12/2021  | 31 @ South Bay             | Rearend      | 2      | PDO      | EB / EB                            | Wet        | Following Too Closely |
| 382        | 4/17/2021  | 31 @ Pardee                | Rearend      | 2      | INJ      | EB / EB                            | Dry        | Driver Inexperience   |
| 383        | 4/19/2021  | 31 @ Thompson              | Rearend      | 2      | PDO      | WB / WB Stopped                    | Dry        | Following Too Closely |
| 384        | 4/19/2021  | 31 - 61m E of Route 11     | Left Turn    | 2      | PDO      | WB Left / EB                       | Dry        | Failure to Yield ROW  |
| 385        | 4/26/2021  | 31 - MM 33091258           | Rearend      | 3      | PDO      | NB / NB / NB Stopped               | Dry        | Following Too Closely |
| 386        | 4/28/2021  | 31 @ Crabtree              | Left Turn    | 2      | PDO      | NB Left / WB                       | Dry        | Failure to Yield ROW  |



| Accident # | Date      | Location                 | Type         | # Cars | Severity | Direction              | Conditions | Contributing Factors             |
|------------|-----------|--------------------------|--------------|--------|----------|------------------------|------------|----------------------------------|
| 387        | 4/17/2021 | 31 @ Route 11            | Overtaking   | 2      | PDO      | WB Changing Lanes / WB | Dry        | Unsafe Lane Change               |
| 388        | 5/1/2021  | 31 @ I-81 SB             | Right Angle  | 2      | INJ      | SB / EB                | Dry        | Traffic Control Disregarded      |
| 389        | 5/1/2021  | 31 @ Route 11            | Rearend      | 2      | PDO      | NB / NB                | Dry        | Following Too Closely            |
| 390        | 4/30/2021 | 31 @ Route 11            | Right Angle  | 2      | PDO      | WB / NB                | Wet        | Driver Inattention               |
| 391        | 5/6/2021  | Parking Lot              | Unknown      | 2      | PDO      | Unknown / EB Parked    | Dry        | Driver Inattention               |
| 392        | 5/8/2021  | 31 @ Lakeshore           | Fixed Object | 1      | INJ      | SB / Sign Post         | Wet        | Traffic Control Disregarded      |
| 393        | 5/8/2021  | 31 @ Pardee              | Rearend      | 2      | PDO      | EB Left / EB Left      | Wet        | Following Too Closely            |
| 394        | 5/10/2021 | Parking Lot              | Right Turn   | 2      | PDO      | SB Right / WB Parked   | Dry        | Improper Turn                    |
| 395        | 5/3/2021  | 31 @ Thompson            | Rearend      | 2      | INJ      | NB / NB                | Dry        | Defective Brakes                 |
| 396        | 5/10/2021 | Parking Lot              | Overtaking   | 2      | PDO      | SB / S                 | Dry        | Driver Inattention               |
| 397        | 5/18/2021 | 31 @ Pardee              | Overtaking   | 2      | Non Rep  | NB / NB                | Dry        | Fail to keep right               |
| 398        | 5/20/2021 | 31 - 30m E of Lakeshore  | Rearend      | 2      | PDO      | EB / EB                | Dry        | Following Too Closely            |
| 399        | 5/20/2021 | 31 @ I-81 SB             | Overtaking   | 2      | INJ      | SB / SB                | Dry        | Aggression / Following too close |
| 400        | 5/18/2021 | 31 @ Lakeshore Spur      | Rearend      | 2      | PDO      | WB / WB                | Dry        | Unsafe Speed                     |
| 401        | 5/25/2021 | 31 - 64m E of Pardee     | Rearend      | 2      | PDO      | WB / WB                | Dry        | Following Too Closely            |
| 402        | 5/28/2021 | 31 @ Route 11            | Left Turn    | 2      | INJ      | WB Left / EB           | Wet        | Failure to Yield ROW             |
| 403        | 6/3/2021  | 31 @ Route 11            | Overtaking   | 2      | PDO      | EB Changing Lanes / EB | Dry        | Unsafe Lane Change               |
| 404        | 6/7/2021  | 31 @ Route 11            | Right Angle  | 2      | PDO      | NB Left / EB           | Wet        | Failure to Yield ROW             |
| 405        | 6/9/2021  | 31 - 42m E of Pardee     | Rearend      | 2      | PDO      | EB / EB Stopped        | Dry        | Unsafe Speed                     |
| 406        | 6/11/2021 | 31 @ I-81 SB             | Right Angle  | 2      | PDO      | SB Left / WB           | Dry        | Traffic Control Disregarded      |
| 407        | 6/7/2021  | 31 @ South Bay           | Rearend      | 2      | PDO      | SB / SB                | Dry        | Following too close / reaction   |
| 408        | 6/11/2021 | 31 @ Cicero Center       | Rear end     | 2      | PDO      | EB / EB                | Dry        | Following Too Closely            |
| 409        | 6/7/2021  | 31 @ Route 11            | Left Turn    | 2      | INJ      | WB Left / EB           | Dry        | Failure to Yield ROW             |
| 410        | 6/11/2021 | 31 @ South Bay           | Rearend      | 2      | INJ      | WB / WB Stopped        | Dry        | Following Too Closely            |
| 411        | 6/18/2021 | 31 - 136m W of Lakeshore | Left Turn    | 2      | PDO      | SB Left / WB           | Dry        | Failure to Yield ROW             |
| 412        | 6/19/2021 | Parking Lot              | Overtaking   | 2      | PDO      | SB Parking / SB Parked | Wet        | View Obstructed                  |
| 413        | 6/19/2021 | 31 - 53m W of Crabtree   | Right Angle  | 2      | PDO      | SB Left / EB           | Dry        | Failure to Yield ROW             |
| 414        | 6/23/2021 | 31 - 15m E of Route 11   | Overtaking   | 2      | PDO      | EB Changing Lanes / EB | Dry        | Unsafe Lane change               |
| 415        | 6/24/2021 | 31 @ Thompson            | Rearend      | 2      | PDO      | SB / SB Stopped        | Dry        | Following Too Closely            |
| 416        | 6/25/2021 | 31 @ I-81 SB             | Rearend      | 2      | PDO      | EB / EB                | Dry        | Following Too Closely            |
| 417        | 6/25/2021 | 31 - 30 W of New Country | Rearend      | 2      | PDO      | WB / WB Stopped        | Dry        | Driver Inattention               |
| 418        | 6/19/2021 | 31 @ Cicero Center       | Rearend      | 2      | PDO      | WB / WB                | Wet        | Following Too Closely            |
| 419        | 6/29/2019 | 31 @ Route 11            | Overtaking   | 2      | PDO      | NB / NB Stopped        | Wet        | Driver Inattention               |
| 420        | 6/30/2021 | 31 @ Thompson            | Overtaking   | 2      | PDO      | WB / WB                | Wet        | Improper Passing                 |
| 421        | 6/30/2021 | 31 - 36m W of Crabtree   | Fixed Object | 1      | PDO      | EB / Sign Post         | Wet        | Fell Asleep                      |
| 422        | 7/5/2021  | 31 @ Cicero Center       | Sideswipe    | 2      | PDO      | SB Right / EB Left     | Dry        | Improper Turn                    |
| 423        | 7/8/2021  | 31 @ South Bay           | Fixed object | 1      | PDO      | EB                     | Dry        | Improper Lane Usage              |
| 424        | 7/7/2021  | 31 @ Cicero Center       | Rearend      | 2      | PDO      | SW / SW                | Dry        | Driver Inattention               |
| 425        | 7/9/2021  | 31 @ Lakeshore           | Right Angle  | 2      | PDO      | EB / SE L              | Dry        | Failure to Yield ROW             |



| Accident # | Date      | Location                  | Type          | # Cars | Severity | Direction               | Conditions | Contributing Factors        |
|------------|-----------|---------------------------|---------------|--------|----------|-------------------------|------------|-----------------------------|
| 426        | 7/18/2021 | Midblock Route 31         | Fixed Object  | 1      | PDO      | EB / Ditch              | Wet        | Unsafe Speed                |
| 427        | 7/11/2021 | 31 @ Pardee               | Left Turn     | 2      | PDO      | EB Left / EB Left       | Dry        | Failure to Yield ROW        |
| 428        | 7/15/2021 | 31 - 19m E of I-81        | Overtaking    | 2      | PDO      | EB Changing Lanes / EB  | Dry        | Unsafe Lane Change          |
| 429        | 7/21/2021 | 31 Near Damon             | Fixed Object  | 1      | INJ      | WB / Culvert            | Dry        | RX Medication               |
| 430        | 7/21/2021 | 31 - 57m W of Doreen      | Animal        | 1      | PDO      | EB / Deer               | Dry        | Animal's Action             |
| 431        | 7/27/2021 | Midblock Route 31         | Fixed Object  | 1      | PDO      | SB Right / Ditch        | Dry        | Improper Turn               |
| 432        | 7/29/2021 | 31 - 63m E of Pardee      | Right Angle   | 2      | PDO      | NB Changing Lanes / WB  | Wet        | Improper Lane Usage         |
| 433        | 8/2/2021  | 31 @ Bokyo Farm           | Rearend       | 3      | PDO      | WB / WB Stopped (2)     | Dry        | Following Too Closely       |
| 434        | 8/4/2021  | 31 @ Route 11             | Right Angle   | 2      | PDO      | SB Left / EB            | Dry        | Failure to Yield ROW        |
| 435        | 8/6/2021  | 31 @ Crabtree             | Right Turn    | 2      | PDO      | NB Right / EB           | Dry        | Failure to Yield ROW        |
| 436        | 8/10/2021 | 31 @ Pardee               | Rearend       | 2      | PDO      | WB / WB Stopped         | Dry        | Failure to Yield ROW        |
| 437        | 7/28/2021 | 31 @ Pardee               | Right Angle   | 2      | PDO      | NB Left / WB            | Dry        | Failure to Yield ROW        |
| 438        | 6/30/2021 | 31 @ Route 11             | Rearend       | 2      | INJ      | NB / NB Stopped         | Dry        | Following Too Closely       |
| 439        | 8/16/2021 | 31 - 136m E of Pardee     | Overtaking    | 2      | PDO      | WB / WB Left            | Dry        | Driver Inattention          |
| 440        | 8/9/2021  | Parking Lot               | Backing       | 2      | PDO      | NB Backing / WB         | Dry        | Backing Unsafely            |
| 441        | 8/17/2021 | 31 @ Pardee               | Overtaking    | 2      | PDO      | WB / WB                 | Wet        | Driver Inattention          |
| 442        | 8/18/2021 | 31 @ I-81 SB              | Left Turn     | 2      | PDO      | WB Left / EB            | Wet        | Traffic Control Disregarded |
| 443        | 8/19/2021 | 31 @ I-81 SB              | Right Angle   | 2      | PDO      | SB Left / WB            | Dry        | Traffic Control Disregarded |
| 444        | 8/18/2021 | Route 11 N or 31          | Fixed Object  | 1      | PDO      | NB / Guide Rail         | Wet        | Pavement Slippery           |
| 445        | 8/21/2021 | 31 @ Lakeshore            | Non Collision | 1      | PDO      | EB                      | Dry        | Tire Failure                |
| 446        | 8/24/2021 | 31 @ New Country          | Rearend       | 2      | PDO      | EB / EB Stopped         | Dry        | Driver Inattention          |
| 447        | 8/24/2021 | 31 @ Route 11             | Rearend       | 2      | PDO      | NB / NB Stopped         | Dry        | Driver Inattention          |
| 448        | 8/26/2021 | 31 @ Pardee               | Right Turn    | 2      | PDO      | NB / NB Right           | Dry        | Improper Turn               |
| 449        | 8/27/2021 | 31 @ Route 11             | Rearend       | 3      | PDO      | WB / WB Stopped (2)     | Dry        | Driver Inattention          |
| 450        | 8/1/2021  | 31 - 98m E of Pardee      | Backing       | 2      | PDO      | NB Backing / NB Stopped | Wet        | Backing Unsafely            |
| 451        | 9/6/2021  | 31 @ Thompson             | Right Angle   | 2      | PDO      | WB Right / SB Stopped   | Dry        | Improper Lane Usage         |
| 452        | 9/11/2021 | 31 @ Thompson             | Fixed Object  | 1      | PDO      | SB Right / Utility Pole | Dry        | Improper Turn               |
| 453        | 9/15/2021 | 31 - 45m W of New Country | Rearend       | 2      | PDO      | WB / WB Stopped         | Wet        | Following Too Closely       |
| 454        | 9/15/2021 | 31 @ Lakeshore Spur       | Rearend       | 3      | INJ      | WB / WB / WB            | Wet        | Following Too Closely       |
| 455        | 9/17/2021 | 31 Near Doreen            | Rearend       | 3      | PDO      | WB / WB / WB            | Dry        | Following Too Closely       |
| 456        | 9/18/2021 | 31 - 61m W of Thompson    | Fixed Object  | 1      | PDO      | WB / Ditch              | Dry        | Glare                       |
| 457        | 9/22/2021 | 31 @ South Bay            | Overtaking    | 2      | PDO      | WB / WB                 | Wet        | Improper Lane Usage         |
| 458        | 9/17/2021 | 31 @ Cicero Center        | Rear end      | 2      | PDO      | WB / WB Stopped         | Dry        | Following Too Closely       |
| 459        | 9/22/2021 | 31 - 805m E of Cic Center | Fixed object  | 1      | PDO      | Unknown                 | Wet        | Illegal Drugs               |
| 460        | 9/23/2021 | 31 @ South Bay            | Right Angle   | 2      | PDO      | NB / EB                 | Wet        | Failure to Yield ROW        |
| 461        | 9/27/2021 | 31 - 322m E of Damon      | Rearend       | 2      | PDO      | EB / EB                 | Dry        | Following Too Closely       |
| 462        | 9/28/2021 | 31 - 68m E of Doreen      | Rearend       | 3      | PDO      | WB / WB / WB            | Dry        | Glare                       |
| 463        | 9/29/2021 | 31 - 35m W of Crabtree    | Overtaking    | 2      | PDO      | EB Changing Lanes / EB  | Dry        | Unsafe Lane Change          |
| 464        | 9/29/2021 | 31 @ I-81 SB              | Right Angle   | 2      | INJ      | SB Left / WB            | Dry        | Traffic Control Disregarded |



| Accident # | Date       | Location                  | Type         | # Cars | Severity | Direction              | Conditions | Contributing Factors        |
|------------|------------|---------------------------|--------------|--------|----------|------------------------|------------|-----------------------------|
| 465        | 10/1/2021  | 31 - 18m W of Damon       | Animal       | 1      | PDO      | WB / Deer              | Dry        | Animal's Action             |
| 466        | 10/1/2021  | 31 - 61m W of Lakeshore   | Right Angle  | 2      | PDO      | NB Left / WB           | Dry        | Failure to Yield ROW        |
| 467        | 10/2/2021  | 31 - 403m W of Damon      | Animal       | 1      | PDO      | EB / Deer              | Dry        | Animal's Action             |
| 468        | 9/26/2021  | 31 @ Route 11             | Sideswipe    | 2      | PDO      | W Left / EB            | Dry        | Improper Turn               |
| 469        | 10/4/2021  | 31 @ Thompson             | Right Angle  | 2      | PDO      | WB Left / NB           | Wet        | Driver Inattention          |
| 470        | 10/4/2021  | 31 - 42m E of Thompson    | Backing      | 2      | PDO      | NB Backing / SB Parked | Wet        | Backing Unsafely            |
| 471        | 10/6/2021  | 31 @ Route 11             | Rearend      | 2      | PDO      | EB / EB Stopped        | Dry        | Driver Inattention          |
| 472        | 10/6/2021  | 31 - 63m W of Button      | Rearend      | 2      | PDO      | WB / WB Stopped        | Dry        | Traffic Control Disregarded |
| 473        | 10/7/2021  | 31 - 152m E of Pardee     | Rearend      | 2      | PDO      | WB / WB                | Dry        | Following Too Closely       |
| 474        | 10/7/2021  | 31 @ Lakeshore            | Rearend      | 2      | PDO      | WB / WB Stopped        | Dry        | Following Too Closely       |
| 475        | 9/29/2021  | 31 @ New Country          | Pedestrian   | 1      | INJ      | NB Right / Pedestrian  | Dry        | Driver Inattention          |
| 476        | 10/7/2021  | 31 @ Button               | Overtaking   | 2      | INJ      | EB / EB Stopped        | Dry        | Following Too Closely       |
| 477        | 10/13/2021 | 31 - 213m E of Eastwood   | Fixed Object | 1      | PDO      | WB / Guide Rail        | Dry        | Fell Asleep                 |
| 478        | 10/19/2021 | 31 @ Lakeshore            | Rearend      | 2      | PDO      | SW / SW Stopped        | Dry        | Following Too Closely       |
| 479        | 10/24/2021 | 31 @ Button               | Left Turn    | 2      | PDO      | EB Left / SB           | Wet        | Improper Lane Usage         |
| 480        | 10/23/2021 | 31 @ Pardee               | Right Angle  | 3      | INJ      | N Left / WB / WB       | Wet        | Failure to Yield ROW        |
| 481        | 10/25/2021 | 31 - 81m W of Lakeshore   | Overtaking   | 2      | PDO      | WB Changin Lanes / WB  | Dry        | Unsafe Lane change          |
| 482        | 10/28/2021 | 31 @ Pardee               | Rearend      | 2      | PDO      | WB / WB Stopped        | Dry        | Driver Inattention          |
| 483        | 10/29/2021 | 31 @ South Bay            | Rearend      | 2      | INJ      | WB / WB Stopped        | Wet        | Following Too Closely       |
| 484        | 10/28/2021 | 31 - 79m E of Route 11    | Right Angle  | 2      | INJ      | SB Left / WB           | Dry        | Failure to Yield ROW        |
| 485        | 10/29/2021 | 31 @ Lakeshore            | Rearend      | 2      | PDO      | WB / WB Stopped        | Wet        | Following Too Closely       |
| 486        | 10/29/2021 | 31 @ South Bay            | Rearend      | 2      | PDO      | WB / WB Stopped        | Dry        | Following Too Closely       |
| 487        | 10/29/2021 | 31 @ Route 11             | Left Turn    | 2      | PDO      | NB Left / SB           | Dry        | Failure to Yield ROW        |
| 488        | 10/29/2021 | 31 - 30m E of Pardee      | Overtaking   | 2      | INJ      | WB Changing Lanes / WB | Dry        | Unsafe Lane change          |
| 489        | 10/25/2021 | 31 - MM 31 33091250       | Overtaking   | 2      | PDO      | WB Changing Lanes / WB | Dry        | Unsafe Lane change          |
| 490        | 11/2/2021  | 31 @ Thompson             | Rearend      | 3      | PDO      | SB / SB Stopped (2)    | Dry        | Driver Inattention          |
| 491        | 10/31/2021 | 31 @ New Country          | Right Turn   | 2      | PDO      | NB Right / EB          | Wet        | Failure to Yield ROW        |
| 492        | 11/5/2021  | 31 @ Pardee               | Right Angle  | 2      | PDO      | WB / WB Left           | Dry        | Traffic Control Disregarded |
| 493        | 11/5/2021  | 31 @ Pardee               | Right Angle  | 2      | PDO      | EB / NB                | Dry        | Driver Inattention          |
| 494        | 11/12/2021 | 31 - 14m W of Lakeshore   | Right Angle  | 2      | PDO      | NB Left / WB           | Dry        | Failure to Yield ROW        |
| 495        | 11/12/2021 | 31 - 21m W of New Country | Overtaking   | 2      | PDO      | EB / EB Right          | Dry        | Improper Turn               |
| 496        | 11/11/2021 | Parking Lot               | Right Turn   | 2      | PDO      | WB Right / WB Parked   | Dry        | Improper Turn               |
| 497        | 10/19/2021 | 31 @ I-81 SB              | Right Angle  | 2      | INJ      | SB Left / EB           | Dry        | Failure to Yield ROW        |
| 498        | 11/17/2021 | 31 @ Crabtree             | Left Turn    | 2      | PDO      | NB Left / WB           | Dry        | Failure to Yield ROW        |
| 499        | 11/18/2021 | 31 @ Route 11             | Left Turn    | 2      | PDO      | EB Left / WB           | Wet        | Failure to Yield ROW        |
| 500        | 11/25/2021 | 31 Near Damon             | Fixed Object | 1      | INJ      | WB / Ditch             | Dry        | Reaction to Another Vehicle |
| 501        | 11/22/2021 | 31 - 132m E of Pardee     | Right Angle  | 2      | PDO      | WB Right / WB          | Snow / Ice | Failure to Yield ROW        |
| 502        | 12/2/2021  | 31 @ Route 11             | Right Angle  | 2      | PDO      | WB Left / SB           | Wet        | Failure to Yield ROW        |
| 503        | 12/1/2021  | 31 @ Thompson             | Left Turn    | 2      | PDO      | EB Left / WB           | Wet        | Failure to Yield ROW        |



| Accident # | Date       | Location                   | Type         | # Cars | Severity | Direction                 | Conditions | Contributing Factors        |
|------------|------------|----------------------------|--------------|--------|----------|---------------------------|------------|-----------------------------|
| 504        | 12/1/2021  | 31 @ I-81 SB               | Rearend      | 2      | PDO      | EB / EB                   | Dry        | Following Too Closely       |
| 505        | 12/1/2021  | Parking Lot                | Fixed object | 1      | PDO      | EB Backing / Fixed Object | Dry        | Backing Unsafely            |
| 506        | 11/27/2021 | 31 Near Eastwood           | Rearend      | 2      | PDO      | EB / EB                   | Dry        | Following Too Closely       |
| 507        | 12/4/2021  | 31 @ I-81 SB               | Overtaking   | 2      | PDO      | WB / WB                   | Dry        | Improper Passing            |
| 508        | 11/19/2021 | 31 - 49m W of Lakeshore    | Fixed object | 1      | PDO      | EB / Fixed Object         | Dry        | Lost consciousness          |
| 509        | 12/7/2021  | 31 @ Pardee                | Rearend      | 2      | PDO      | WB / WB Stopped           | Wet        | Driver Inattention          |
| 510        | 12/13/2021 | 31 @ Button                | Left Turn    | 2      | INJ      | EB Left / WB              | Dry        | Failure to Yield ROW        |
| 511        | 12/21/2021 | 31 @ Route 11              | Rearend      | 3      | PDO      | WB / WB / WB              | Dry        | Following Too Closely       |
| 512        | 12/21/2021 | 31 @ Route 11              | Overtaking   | 2      | PDO      | NB / NB Stopped           | Dry        | Driver Inattention          |
| 513        | 12/22/2021 | 31 - 18m W of Damon        | Rearend      | 4      | INJ      | EB / EB Stopped (3)       | Snow / Ice | Following Too Closely       |
| 514        | 12/29/2021 | 31 @ Thompson              | Right Angle  | 2      | PDO      | NB Left / WB              | Wet        | Failure to Yield ROW        |
| 515        | 12/23/2021 | 31 @ Route 11              | Right Angle  | 2      | PDO      | NB Left / WB              | Dry        | Failure to Yield ROW        |
| 516        | 2/25/2019  | Parking Lot                | Head On      | 2      | PDO      | WB / Parked               | Snow / Ice | Pavement Slippery           |
| 517        | 5/4/2019   | Lakeshore @ Button         | Rearend      | 2      | PDO      | NB / NB Right             | Dry        | Following Too Closely       |
| 518        | 5/27/2019  | South Bay @ Lakeshore      | Fixed Object | 1      | INJ      | NB / Ditch                | Dry        | Alcohol Involvement         |
| 519        | 6/13/2019  | LS - 48m N of Route 31     | Bicyclist    | 1      | INJ      | NB / NB                   | Wet        | Alcohol Involvement         |
| 520        | 6/29/2019  | LS - 134m E of Eden        | Overtaking   | 2      | PDO      | EB / EB                   | Dry        | Failure to Keep Right       |
| 521        | 7/12/2019  | Lakeshore @ Belnor         | Left Turn    | 2      | PDO      | EB / EB Left              | Dry        | Failure to Yield ROW        |
| 522        | 7/13/2019  | South Bay @ Lakeshore      | Right Angle  | 2      | INJ      | NB / WB                   | Wet        | Alcohol Involvement         |
| 523        | 9/16/2019  | LS - 152m S of Murray      | Animal       | 1      | PDO      | SB / Deer                 | Dry        | Animal's Action             |
| 524        | 9/17/2019  | LS - 152m W of Carmenica   | Right Angle  | 2      | PDO      | NE Right / EB             | Dry        | View obstruction            |
| 525        | 10/10/2019 | LS - 22m E of Belnor       | Animal       | 1      | PDO      | WB / Deer                 | Dry        | Animal's Action             |
| 526        | 10/11/2019 | Lakeshore @ Snowshoe       | Right Angle  | 2      | PDO      | WB Backing / SB           | Dry        | Backing Unsafely            |
| 527        | 11/4/2019  | Lakeshore @ Belnor         | Rearend      | 2      | PDO      | EB / EB Stopped           | Dry        | Following Too Closely       |
| 528        | 11/24/2019 | Lakeshore @ Snowshoe       | Rearend      | 2      | PDO      | EB / EB Stopped           | Dry        | Following Too Closely       |
| 529        | 12/3/2019  | LS - 30m W of Carmenica    | Sideswipe    | 2      | INJ      | EB / WB                   | Wet        | Tow Hitch Defective         |
| 530        | 11/29/2019 | Lakeshore @ Backstretch    | Fixed Object | 1      | PDO      | EB / Sign Post            | Snow / Ice | Pavement Slippery           |
| 531        | 12/7/2019  | Lakeshore @ Backstretch    | Sideswipe    | 2      | PDO      | NB Left / SB Stopped      | Wet        | Failure to Yield ROW        |
| 532        | 12/19/2021 | Lakeshore @ Snowshoe       | Fixed Object | 1      | PDO      | SB / Ditch                | Dry        | Reaction to Another Vehicle |
| 533        | 12/18/2019 | Lakeshore @ Whiting        | Right Angle  | 2      | PDO      | NB / WB Left              | Snow / Ice | Pavement Slippery           |
| 534        | 12/18/2019 | LS - 7m W of Seneca        | Fixed Object | 1      | PDO      | WB / Tree                 | Snow / Ice | Pavement Slippery           |
| 535        | 12/22/2019 | LS - 30m E of Snowshoe     | Overtaking   | 2      | PDO      | EB / EB Parked            | Wet        | View Obstructed             |
| 536        | 1/10/2020  | LS - 61m East of Mudd Mill | Fixed Object | 1      | PDO      | EB Right / Ditch          | Wet        | Improper Turn               |
| 537        | 1/31/2020  | Lakeshore Midblock         | Fixed Object | 1      | PDO      | WB / Fire Hydrant         | Dry        | Passing Improperly          |
| 538        | 2/12/2020  | LS - 152m W of Mudd Mill   | Fixed Object | 1      | PDO      | WB / Ditch                | Dry        | Failure to Keep Right       |
| 539        | 2/14/2020  | Lakeshore @ Mud Mill       | Fixed Object | 1      | PDO      | EB / Snow Embankment      | Wet        | Glare                       |
| 540        | 2/14/2020  | Lakeshore @ Cicero Center  | Rearend      | 2      | PDO      | EB / EB Stopped           | Wet        | Following Too Closely       |
| 541        | 2/13/2020  | Parking Lot                | Backing      | 2      | PDO      | EB Backing / EB Parked    | Dry        | Backing Unsafely            |
| 542        | 2/20/2020  | LS - 15m W of Mudd Mill    | Fixed Object | 1      | PDO      | WB / Sign Post            | Wet        | Driver Inattention          |



| Accident # | Date       | Location                  | Type         | # Cars | Severity | Direction               | Conditions | Contributing Factors        |
|------------|------------|---------------------------|--------------|--------|----------|-------------------------|------------|-----------------------------|
| 543        | 4/18/2020  | Lakeshore @ Eldan         | Fixed Object | 1      | PDO      | WB / Unknown            | Unknown    | Driver Inattention          |
| 544        | 4/23/2020  | Lakeshore @ Mud Mill      | Fixed Object | 2      | PDO      | EB / Ditch              | Dry        | Alcohol Involvement         |
| 545        | 4/23/2020  | LS near Snowshoe          | Overtaking   | 2      | INJ      | EB / EB                 | Dry        | Following Too Closely       |
| 546        | 5/23/2020  | LS near Snowshoe          | Fixed Object | 1      | PDO      | WB / Utility Pole       | Dry        | Reaction to Another Vehicle |
| 547        | 6/17/2020  | LS - 114m E of Cic Center | Rearend      | 4      | INJ      | WB / WB Parked (3)      | Dry        | View obstruction            |
| 548        | 6/21/2020  | Midblock Lakeshore        | Fixed Object | 1      | PDO      | WB / Fixed Object       | Dry        | Improper Lane Usage         |
| 549        | 6/20/2020  | Lakeshore @ Snowshoe      | Left Turn    | 2      | INJ      | EB / WB Left            | Dry        | Failure to Yield ROW        |
| 550        | 8/4/2020   | LS - 22m W of Osborne     | Fixed Object | 1      | PDO      | WB / Fixed Object       | Wet        | Failure to Keep Right       |
| 551        | 8/14/2020  | LS - 30m W of Belnor      | Rearend      | 2      | PDO      | EB / EB                 | Dry        | Following Too Closely       |
| 552        | 9/5/2020   | LS near Mapleview         | Overtaking   | 2      | PDO      | WB from Parking / WB    | Dry        | Failure to Yield ROW        |
| 553        | 9/21/2020  | LS 122m W of Eldan        | Fixed Object | 1      | PDO      | EB / Fixed Object       | Dry        | Cellphone                   |
| 554        | 9/17/2020  | Midblock Lakeshore        | Right Angle  | 2      | PDO      | WB Backing / SB         | Dry        | Backing Unsafely            |
| 555        | 10/14/2020 | LS 97m W of Belnor        | Fixed Object | 1      | PDO      | EB / Utility Pole       | Dry        | Driver Inattention          |
| 556        | 10/17/2020 | LS - 64m S of Murray      | Animal       | 1      | PDO      | NB / Deer               | Dry        | Animal's Action             |
| 557        | 11/12/2020 | LS near Murray            | Fixed Object | 1      | INJ      | EB / Fixed Object       | Dry        | Alcohol Involvement         |
| 558        | 11/25/2020 | LS - 87m W of Persian Ter | Animal       | 1      | PDO      | EB / Deer               | Wet        | Animal's Action             |
| 559        | 2/11/2021  | Lakeshore @ McDonnells    | Fixed Object | 1      | PDO      | SB / Sign Post          | Snow / Ice | Lost Consciousness          |
| 560        | 2/3/2021   | LS - 30m E of Persian Ter | Animal       | 2      | PDO      | EB / Deer               | Dry        | Animal's Action             |
| 561        | 3/21/2021  | Lakeshore @ Eldan         | Backing      | 2      | PDO      | NB Backing / NB         | d          | Backing Unsafely            |
| 562        | 4/17/2021  | Lakeshore @ Snowshoe      | Left Turn    | 2      | PDO      | W Left / EB             | Dry        | Failure to Yield ROW        |
| 563        | 4/27/2021  | Lakeshore @ Cicero Center | Fixed Object | 1      | PDO      | NB / Fixed Object       | Dry        | Unknown                     |
| 564        | 6/4/2021   | LS - 152m West of Belnor  | Rearend      | 2      | PDO      | EB / EB Right           | Wet        | Following Too Closely       |
| 565        | 6/19/2021  | Lakeshore @ Whiting       | Right Angle  | 2      | PDO      | EB / NB Right           | Dry        | Failure to Yield ROW        |
| 567        | 8/23/2021  | Lakeshore @ Carmenica     | Rearend      | 2      | PDO      | EB / EB                 | Dry        | Driver Inattention          |
| 568        | 9/19/2021  | LS - 68m E of Snowshoe    | Animal       | 1      | PDO      | EB / Deer               | Dry        | Animal's Action             |
| 569        | 10/13/2021 | LS - 91m E of Bayview     | Pedestrian   | 1      | INJ      | EB / Pedestrian         | Dry        | Failure to Yield ROW        |
| 570        | 10/12/2021 | LS - 344m W of Bayview    | Overtaking   | 2      | PDO      | EB / EB                 | Dry        | Unsafe Speed                |
| 571        | 11/16/2021 | LS - 12m W of Backstretch | Fixed Object | 1      | PDO      | EB / Tree               | Wet        | Alcohol Involvement         |
| 572        | 1/17/2019  | South Bay @ Thompson      | Rearend      | 2      | PDO      | NEB / NEB               | Dry        | Following too close         |
| 573        | 2/18/2019  | South Bay @ Thompson      | Rearend      | 2      | PDO      | SWB / SWB Stopped       | Snow / Ice | Driver Inattention          |
| 574        | 3/26/2019  | South Bay @ Thompson      | Backing      | 2      | PDO      | SW Backing / NE Stopped | Dry        | Backing Unsafely            |
| 575        | 4/5/2019   | South Bay @ Thompson      | Backing      | 2      | PDO      | SB Backing / SB Stopped | Wet        | Backing Unsafely            |
| 576        | 4/17/2019  | SB - 61m N of Henryk      | Rearend      | 2      | INJ      | NB / NB                 | Dry        | Following Too Closely       |
| 577        | 4/27/2020  | South Bay @ 31            | Rearend      | 2      | PDO      | SB / SB                 | Dry        | Following Too Closely       |
| 578        | 5/21/2020  | South Bay @ Thompson      | Rearend      | 3      | PDO      | NE / NE Stopped (2)     | Dry        | Following Too Closely       |
| 579        | 5/27/2020  | South Bay @ Lakeshore     | Fixed Object | 1      | INJ      | NB / Ditch              | Dry        | Traffic Control Disregarded |
| 580        | 6/7/2019   | South Bay @ Whiting       | Right Angle  | 2      | INJ      | SE / SW                 | Dry        | Failure to Yield ROW        |
| 581        | 7/18/2019  | South Bay @ Thompson      | Head On      | 2      | PDO      | NB / unknown            | Dry        | Avoiding Object in Road     |
| 582        | 8/13/2019  | South Bay @ Whiting       | Right Angle  | 2      | INJ      | SB / WB                 | Dry        | Failure to Yield ROW        |



| Accident # | Date       | Location                | Type         | # Cars | Severity | Direction               | Conditions | Contributing Factors        |
|------------|------------|-------------------------|--------------|--------|----------|-------------------------|------------|-----------------------------|
| 583        | 8/17/2019  | South Bay @ Whiting     | Left Turn    | 2      | PDO      | SB Left / NB            | Wet        | Failure to Yield ROW        |
| 584        | 8/25/2019  | South Bay @ Thompson    | Rearend      | 2      | PDO      | NB / NB Stopped         | Dry        | Following Too Closely       |
| 585        | 8/29/2019  | South Bay @ Thompson    | Rearend      | 2      | INJ      | SB / SB Stopped         | Dry        | Driver Inattention          |
| 586        | 9/6/2019   | South Bay @ Daedalus    | Bicyclist    | 1      | INJ      | WB Left / NB Bike       | Dry        | Failure to Yield ROW        |
| 587        | 9/28/2019  | Midblock South Bay      | Fixed Object | 1      | PDO      | NB / Fixed Object       | Dry        | Alcohol Involvement         |
| 588        | 10/12/2019 | SB - 629m S of Owasco   | Animal       | 1      | PDO      | SB / Animal             | Wet        | Animal's Action             |
| 589        | 11/4/2019  | South Bay @ Thompson    | Left Turn    | 2      | INJ      | WB Left / NB            | Dry        | Traffic Control Disregarded |
| 590        | 11/14/2019 | SB - 208m N of Wayfarer | Animal       | 1      | PDO      | SB / Deer               | Dry        | Animal's Action             |
| 591        | 12/6/2019  | South Bay @ Whiting     | Right Angle  | 2      | INJ      | EB / SB                 | Snow / Ice | Failure to Yield ROW        |
| 592        | 1/9/2020   | SB - 30m S of Thompson  | Rearend      | 2      | INJ      | SB / SB                 | Wet        | Following Too Closely       |
| 593        | 1/8/2020   | South Bay @ Thompson    | Rearend      | 2      | PDO      | NB / NB Stopped         | Snow / Ice | Pavement Slippery           |
| 594        | 2/3/2019   | Parking Lot             | Backing      | 2      | PDO      | EB Backing / WB Stopped | Wet        | Backing Unsafely            |
| 595        | 1/22/2020  | SB - 110m N of Wayfarer | Animal       | 1      | PDO      | SB / Deer               | Dry        | Animal's Action             |
| 596        | 2/27/2020  | South Bay @ Thompson    | Rearend      | 2      | PDO      | SB - SB Stopped         | Dry        | Following Too Closely       |
| 597        | 2/29/2020  | Parking Lot             | Overtaking   | 2      | PDO      | EB Backing / EB Parked  | Wet        | Backing Unsafely            |
| 598        | 4/12/2020  | SB - 166m S of Owasco   | Fixed Object | 1      | PDO      | SW / Tree               | Dry        | Alcohol Involvement         |
| 599        | 5/29/2020  | Thompson N of SB        | Right Angle  | 2      | PDO      | NB / NB Right           | Dry        | Improper Lane Usage         |
| 600        | 6/15/2020  | South Bay @ Whiting     | Right Angle  | 2      | INJ      | WB / NB                 | Dry        | Failure to Yield ROW        |
| 601        | 6/20/2020  | South Bay               | Fixed Object | 1      | PDO      | NB / Fixed Object       | Dry        | Animal's Action             |
| 602        | 7/9/2020   | 31 @ South Bay          | Right Angle  | 2      | INJ      | EB / SW                 | Dry        | Traffic Control Disregarded |
| 603        | 7/17/2020  | SB - 81m N of Matilida  | Rearend      | 3      | PDO      | NB / NB / NB            | Dry        | Following Too Closely       |
| 604        | 7/27/2020  | South Bay @ Whiting     | Bicyclist    | 1      | INJ      | NB Right / NB Bike      | Dry        | Traffic Control Disregarded |
| 605        | 7/21/2020  | South Bay @ Thompson    | Rearend      | 2      | PDO      | NW / NW Right           | Dr         | Not entered                 |
| 606        | 8/17/2020  | South Bay @ Thompson    | Rearend      | 2      | PDO      | SB / SB Stopped         | Wet        | Following Too Closely       |
| 607        | 9/10/2020  | South Bay @ Thompson    | Rearend      | 2      | PDO      | NE / NE Right           | Dry        | Following Too Closely       |
| 608        | 9/28/2020  | South Bay @ Whiting     | Right Angle  | 2      | PDO      | SB / EB                 | Dry        | Failure to Yield ROW        |
| 609        | 10/6/2020  | South Bay @ Thompson    | Left Turn    | 2      | PDO      | NB Left / SB            | Dry        | Failure to Yield ROW        |
| 610        | 10/5/2020  | South Bay @ Thompson    | Rear end     | 2      | PDO      | SB / SB Stopped         | Dry        | Following Too Closely       |
| 611        | 10/29/2020 | South Bay @ Thompson    | Head On      | 2      | INJ      | SB / NB                 | Wet        | Passenger Distraction       |
| 612        | 11/11/2020 | South Bay @ Cicero      | Fixed Object | 1      | PDO      | NW / Fixed Object       | Wet        | Pavement Slippery           |
| 613        | 11/12/2020 | Midblock South Bay      | Animal       | 1      | PDO      | NE / Deer               | Dry        | Animal's Action             |
| 614        | 11/13/2020 | South Bay @ Thompson    | Rearend      | 2      | PDO      | SE / SE Right           | Dry        | Following Too Closely       |
| 615        | 12/3/2020  | South Bay @ Owasco      | Fixed Object | 1      | PDO      | SW Right / Ditch        | Dry        | Driver Inattention          |
| 616        | 2/24/2021  | Midblock South Bay      | Fixed Object | 1      | PDO      | SB / Snow Embankment    | Dry        | Illegal Drugs               |
| 617        | 4/28/2021  | South Bay @ Thompson    | Left Turn    | 2      | PDO      | NB Left / SB            | Wet        | Failure to Yield ROW        |
| 618        | 5/20/2021  | South Bay @ Whiting     | Right Angle  | 2      | PDO      | NB / NE                 | Dry        | Failure to Yield ROW        |
| 619        | 5/26/2020  | SB - 313m N of Gillette | Overtaking   | 2      | PDO      | SB / SB                 | Dry        | Unsafe Lane Change          |
| 620        | 6/2/20201  | South Bay @ Thompson    | Rearend      | 2      | PDO      | NB / NB                 | Dry        | Following Too Closely       |
| 621        | 6/11/2021  | South Bay @ Thompson    | Rearend      | 2      | PDO      | NE / NE Stopped         | Dry        | Following Too Closely       |



| Accident # | Date       | Location                 | Type         | # Cars | Severity | Direction       | Conditions | Contributing Factors        |
|------------|------------|--------------------------|--------------|--------|----------|-----------------|------------|-----------------------------|
| 622        | 7/1/2021   | SB - 61m S of Bradford   | Fixed Object | 1      | INJ      | NB / Ditch      | Dry        | Illness                     |
| 623        | 7/5/2021   | Parking Lot              | Right Angle  | 2      | PDO      | NB / WB Parked  | Dry        | Driver Inattention          |
| 624        | 7/16/2021  | SB - 331m S of Lakeshore | Pedestrian   | 1      | INJ      | SB / Pedestrian | Dry        | Improper Lane Usage         |
| 625        | 8/16/2021  | SB - 30m N of Cic Stage  | Fixed Object | 1      | INJ      | NB /Ditch       | Dry        | Fell Asleep                 |
| 626        | 8/31/2021  | South Bay @ Henryk       | Rearend      | 2      | PDO      | NB / NB Stopped | Dry        | Following too close         |
| 627        | 10/18/2021 | South Bay @ Thompson     | Right Angle  | 2      | PDO      | NW Left / NB    | Wet        | Traffic Control Disregarded |
| 628        | 10/29/2020 | 31 @ South Bay           | Rear end     | 2      | PDO      | WB / WB Stopped | Dry        | Cellphone                   |
| 629        | 12/8/2021  | South Bay @ Thompson     | Sideswipe    | 2      | PDO      | SB / EB Left    | Snow / Ice |                             |



Route 31 @ Route 11 - 77 Accidents

33 - Rearend Accidents  
13 - Overtaking Accidents  
12 - Left Turn Accidents  
10 - Right Angle Accidents  
2 - Right Turn Accidents  
4 - Sideswipe Accidents  
1 - Head On Accident  
1 - Backing Accident  
1 - Pedestrian Accident

Route 31 @ Lakeshore - 32 Accidents

22 - Rearend Accidents  
4 - Right Angle Accidents  
2 - Fixed Object Accidents  
1 - Left Turn Accident  
1 - Overtaking Accident  
1 - Non-Collision Accident  
1 - Animal Accident

Route 31 @ Thompson - 33 Accidents

21 - Rearend Accidents  
6 - Right Angle Accidents  
2 - Overtaking Accidents  
1 - Right Turn Accident  
1 - Sideswipe Accident  
1 - Left Turn Accident  
1 - Fixed Object Accident

Route 31 @ Crabtree Lane - 12 Accidents

3 - Right Angle Accidents  
3 - Overtaking Accidents  
3 - Left Turn Accidents  
1 - Right Turn Accident  
1 - Rearend Accident  
1 - Backing Accident

Route 31 @ Boyko Farm - 2 Rearend Accidents

Route 31 @ I-81 NB Ramp/Pardee Road - 53 Accidents

21 - Rearend Accidents  
12 - Right Angle Accidents  
9 - Overtaking Accidents  
4 - Left Turn Accidents  
2 - Backing Accidents  
1 - Bicyclist Accident  
1 - Right Turn Accident  
1 - Sideswipe Accident  
1 - Non-Collision Accident  
1 - Fixed Object Accident

Route 31 @ South Bay - 35 Accidents

19 - Rearend Accidents  
6 - Right Angle Accidents  
3 - Left Turn Accidents  
2 - Fixed Object Accidents  
2 - Overtaking Accidents  
1 - Sideswipe Accident  
1 - Bicycle Accident  
1 - Animal Accident

Route 31 @ Button Road - 7 Accidents

3 - Fixed Object Accidents  
2 - Left Turn Accidents  
1 - Rearend Accident  
1 - Overtaking Accident

Route 31 @ Cicero Center - 7 Accidents

4 - Rearend Accidents  
1 - Overtaking Accident  
1 - Sideswipe Accident  
1 - Bicycle Accident

Route 31 @ Doreen - 2 Accidents

1 - Right Angle Accident  
1 - Pedestrian Accident

Route 31 @ I-81 SB Ramps - 27 Accidents

12 - Rearend Accidents  
7 - Right Angle Accidents  
5 - Left Turn Accidents  
3 - Overtaking Accidents

Route 31 Midblock - 172 Accidents

51 - Rearend Accidents  
30 - Fixed Object Accidents  
28 - Right Angle Accidents  
26 - Overtaking Accidents  
15 - Animal Accidents  
11 - Left Turn Accidents  
3 - Right Turn Accidents  
2 - Backing Accidents  
2 - Other Accidents  
1 - Pedestrian Accident  
1 - Sideswipe Accident  
1 - Head On Accident  
1 - Fire Accident

Route 31 @ New Country Road - 11 Accidents

8 - Rearend Accidents  
1 - Right Angle Accident  
1 - Pedestrian Accident  
1 - Right Turn Accident

Route 31 @ Lakeshore Spur - 10 Accidents

9 - Rearend Accidents  
1 - Animal Accident

Route 31 @ Whiting Road - 2 Accidents

1 - Animal Accident  
1 - Non-Collision Accident

Route 31 @ Eastwood Road - 2 Accidents

1 - Animal Accident  
1 - Fixed Object Accident



Lakeshore Road Midblock - 31 Accidents  
12 - Fixed Object Accidents  
6 - Animal Accidents  
5 - Overtaking Accidents  
3 - Rearend Accidents  
2 - Right Angle Accidents  
1 - Bicycle Accident  
1 - Pedestrian Accident  
1 - Sideswipe Accident

Lakeshore @ Backstretch - 2 Accidents  
1 - Sideswipe Accident  
1- Fixed Object Accident

Lakeshore @ McDonnells - 1 Fixed Object Accident

South Bay Road Midblock - 15 Accidents  
6 - Fixed Object Accidents  
4 - Animal Accidents  
3 - Rearend Accidents  
1 - Overtaking Accident  
1 - Pedestrian Accident

South Bay @ Daedalus - 1 Bicycle Accident

South Bay @ Henryk - 1 Rearend Accident

31 - Area Parking Lot Accidents  
1 Accident on Cicero Center north of Route 31 included in data  
1 Accident on Route 11 north of Route 31 included in data  
1 Accident on Thompson north of South Bay included in the data

Lakeshore @ South Bay - 3 Accidents  
2 - Fixed Object Accident  
1 - Right Angle Accident

Lakeshore @ Snowshoe - 5 Accidents  
2 - Left Turn Accidents  
1 - Right Angle Accident  
1 - Rearend Accident  
1- Fixed Object Accident

Lakeshore @ Eldan - 2 Accidents  
1 - Backing Accident  
1- Fixed Object Accident

South Bay @ Thompson - 23 Accidents  
14 - Rearend Accidents  
3 - Left Turn Accidents  
2 - Head On Accident  
2 - Backing Accidents  
1 - Right Angle Accident  
1 - Sideswipe Accident

South Bay @ Owasco - 1 Fixed Object Accident

Lakeshore @ Mudd Mill - 2 Fixed Object Accidents

Lakeshore @ Cicero Center - 2 Accidents  
1 - Rearend Accident  
1- Fixed Object Accident

Lakeshore @ Belnor - 2 Accidents  
1 - Rearend Accident  
1 - Left Turn Accident

Lakeshore @ Button - 1 Rearend Accident

Lakeshore @ Whiting - 2 Right Angle Accidents

Lakeshore @ Carmenica - 1 Rearend Accident

South Bay @ Whiting - 8 Accidents  
6 - Right Angle Accidents  
1 - Left Turn Accident  
1 - Bicycle Accident

South Bay @ Cicero - 1 Fixed Object Accident



Route 31 @ Route 11 Intersection - Evening Peak Hour - 3,286 Vehicles. Assumed PM Peak is 9% of AADT, AADT = 36,511 Vehicles  
 Route 31 @ I-81 NB / Pardee Road Intersection - Evening Peak Hour - 3,459 Vehicles. Assumed PM Peak is 9% of AADT, AADT = 38,433 Vehicles  
 Route 31 @ I-81 SB Ramps Intersection - Evening Peak Hour - 2,905 Vehicles. Assumed PM Peak is 9% of AADT, AADT = 32,278 Vehicles  
 Route 31 @ Lakeshore Road Intersection - Evening Peak Hour - 2,604 Vehicles. Assumed PM Peak is 9% of AADT, AADT = 28,933 Vehicles  
 Route 31 @ South Bay Road Intersection - Evening Peak Hour - 1,853 Vehicles. Assumed PM Peak is 9% of AADT, AADT = 20,589 Vehicles  
 Route 31 @ Cicero Center Road Intersection - Evening Peak Hour - 1,0526 Vehicles. Assumed PM Peak is 9% of AADT, AADT = 11,689 Vehicles  
 Lakeshore Road @ South Bay Intersection - Evening Peak Hour - 520 Vehicles. Assumed PM Peak is 9% of AADT, AADT = 5,778 Vehicles  
 Lakeshore Road @ Mudd Mill Road Intersection - Evening Peak Hour -580 Vehicles. Assumed PM Peak is 9% of AADT, AADT = 6,444 Vehicles  
 Lakeshore Road @ Cicero Center Road Intersection - Evening Peak Hour - 522 Vehicles. Assumed PM Peak is 9% of AADT, AADT = 5,800 Vehicles  
 South Bay Road @ Thompson Road Intersection - Evening Peak Hour - 1,971 Vehicles. Assumed PM Peak is 9% of AADT, AADT = 21,900 Vehicles

NYS Route 31 - NYSDOT Traffic Data Viewer - AADT = 34,385 Vehicles  
 Lakeshore Road - NYSDOT Traffic Data Viewer - AADT = 4,256 Vehicles  
 South Bay Road - NYSDOT Traffic Data Viewer - AADT = 6,836 Vehicles

**Intersection Accident Rates**  $\frac{\# \text{ Accidents} \times 1,000,000}{\text{AADT} \times \# \text{ Years} \times 365 \text{ Days}}$  Time Period = 3 years

#### **Route 31 @ Route 11 - 77 Accidents**

Accident Rate = 1.93 accidents per million entering vehicles  
 Statewide average for similar facilities = 0.52 accidents per million entering vehicles (Urban Signal - 4 Legged Intersection - 1-4 Lanes)

**Intersection Accident History is Above the Statewide Average**

#### **Route 31 @ I-81 NB Ramp/Pardee Road - 53 Accidents**

Accident Rate = 1.26 accidents per million entering vehicles  
 Statewide average for similar facilities = 0.52 accidents per million entering vehicles (Urban Signal - 4 Legged Intersection - 1-4 Lanes)

**Intersection Accident History is Above the Statewide Average**

#### **Route 31 @ I-81 SB Ramps - 27 Accidents**

Accident Rate = 0.76 accidents per million entering vehicles  
 Statewide average for similar facilities = 0.52 accidents per million entering vehicles (Urban Signal - 4 Legged Intersection - 1-4 Lanes)

**Intersection Accident History is Above the Statewide Average**

#### **Route 31 @ Lakeshore - 32 Accidents**

Accident Rate = 1.01 accidents per million entering vehicles  
 Statewide average for similar facilities = 0.18 accidents per million entering vehicles (Urban Sign - 3 Legged Intersection - 1-3 Lanes)

**Intersection Accident History is Above the Statewide Average**



**Route 31 @ South Bay - 35 Accidents**

Accident Rate = 1.55 accidents per million entering vehicles

Statewide average for similar facilities = 0.52 accidents per million entering vehicles (Urban Signal - 4 Legged Intersection - 1-4 Lanes)

**Intersection Accident History is Above the Statewide Average**

**Route 31 @ Cicero Center - 7 Accidents**

Accident Rate = 0.55 accidents per million entering vehicles

Statewide average for similar facilities = 0.52 accidents per million entering vehicles (Urban Signal - 4 Legged Intersection - 1-4 Lanes)

**Intersection Accident History is Above the Statewide Average**

**Lakeshore @ South Bay - 3 Accidents**

Accident Rate = 0.47 accidents per million entering vehicles

Statewide average for similar facilities = 0.18 accidents per million entering vehicles (Urban Sign - 3 Legged Intersection - 1-3 Lanes)

**Intersection Accident History is Above the Statewide Average**

**Lakeshore @ Mudd Mill - 2 Fixed Object Accidents**

Accident Rate = 0.28 accidents per million entering vehicles

Statewide average for similar facilities = 0.18 accidents per million entering vehicles (Urban Sign - 3 Legged Intersection - 1-3 Lanes)

**Intersection Accident History is Above the Statewide Average**

**Lakeshore @ Cicero Center - 2 Accidents**

Accident Rate = 0.31 accidents per million entering vehicles

Statewide average for similar facilities = 0.29 accidents per million entering vehicles (Urban Sign - 4 Legged Intersection - 1-3 Lanes)

**Intersection Accident History is Above the Statewide Average**

**South Bay @ Thompson - 23 Accidents**

Accident Rate = 0.96 accidents per million entering vehicles

Statewide average for similar facilities = 0.52 accidents per million entering vehicles (Urban Signal - 4 Legged Intersection - 1-4 Lanes)

**Intersection Accident History is Above the Statewide Average**



## Link Accident Rates

$$\frac{\# \text{ Accidents} \times 1,000,000}{\text{Link Length} \times \text{AADT} \times \# \text{ Years} \times 365 \text{ Days}}$$

Time Period = 3 years

Route 31 Link Length = 5.71 Miles

Lakeshore Road Link Length = 6.80 Miles

Route 31 Link Length = 3.01 Miles

### Route 31 - 484 Accidents

Accident Rate = 2.25 accidents per million vehicle miles

Statewide average for similar facilities = 2.23 accidents per million vehicle miles (Urban - Free Access - 2 Lanes - Undivided - All Accidents)

**Intersection Accident History is Equal to the Statewide Average**

### Lakeshore Road - 54 Accidents

Accident Rate = 1.70 accidents per million vehicle miles

Statewide average for similar facilities = 2.23 accidents per million vehicle miles (Urban - Free Access - 2 Lanes - Undivided - All Accidents)

**Intersection Accident History is Below the Statewide Average**

### South Bay Road Midblock - 50 Accidents

Accident Rate = 2.22 accidents per million vehicle miles

Statewide average for similar facilities = 2.23 accidents per million vehicle miles (Urban - Free Access - 2 Lanes - Undivided - All Accidents)

**Intersection Accident History is Equal to the Statewide Average**



## **APPENDIX H**

### Traffic Count Data



## Proposed Lakeshore Village Development

### Traffic Count Data - Lakeshore Road @ Cicero Center Road

Peaks:     AM - 5/11/221 - 8:00-9:00, 5/12/22 - 8:00-9:00  
              PM - 5/11/22 - 4:00-5:00, 5/12/22 - 4:00-5:00

|                    | 5/11/2022 |       | 5/12/2022 |       | Average Weekday |      |
|--------------------|-----------|-------|-----------|-------|-----------------|------|
|                    | AM        | PM    | AM        | PM    | AM              | PM   |
| Eastbound Left     | 3         | 2     | 0         | 1     | 2               | 2    |
| Eastbound Through  | 118       | 114   | 117       | 129   | 118             | 122  |
| Eastbound Right    | 7         | 25    | 6         | 16    | 7               | 21   |
| EB PHF             | 0.806     | 0.701 | 0.851     | 0.899 | 0.83            | 0.80 |
| % HV               | 2.0       | 2.0   | 2.0       | 2.0   | 2               | 2    |
| Peds               | 1         | 2     | 3         | 5     | 2               | 4    |
|                    |           |       |           |       |                 |      |
| Westbound Left     | 10        | 8     | 5         | 3     | 8               | 6    |
| Westbound Through  | 80        | 120   | 74        | 124   | 77              | 122  |
| Westbound Right    | 0         | 0     | 0         | 0     | 0               | 0    |
| WB PHF             | 0.833     | 0.667 | 0.75      | 0.632 | 0.79            | 0.65 |
| % HV               | 2.0       | 2.0   | 2.0       | 2.0   | 2               | 2    |
| Peds               | 0         | 0     | 2         | 2     | 1               | 1    |
|                    |           |       |           |       |                 |      |
| Northbound Left    | 5         | 30    | 6         | 30    | 6               | 30   |
| Northbound Through | 0         | 1     | 0         | 1     | 0               | 1    |
| Northbound Right   | 12        | 11    | 10        | 19    | 11              | 15   |
| NB PHF             | 0.531     | 0.75  | 0.571     | 0.85  | 1               | 1    |
| % HV               | 2         | 2     | 2         | 2     | 2               | 2    |
| Peds               | 0         | 0     | 0         | 1     | 0               | 1    |
|                    |           |       |           |       |                 |      |
| Southbound Left    | 0         | 2     | 1         | 0     | 1               | 1    |
| Southbound Through | 0         | 0     | 0         | 0     | 0               | 0    |
| Southbound Right   | 2         | 1     | 3         | 1     | 3               | 1    |
| SB PHF             | 0.75      | 0.75  | 0.5       | 0.250 | 0.63            | 0.50 |
| % HV               | 2         | 2     | 2         | 2.0   | 2               | 2    |
| Peds               | 1         | 0     | 0         | 0     | 1               | 0    |



## Proposed Lakeshore Village Development

### Traffic Count Data - Lakeshore Road @ South Bay Road

Peaks:     AM - 5/11/221 - 7:45-8:45, 5/12/22 - 8:00-9:00  
              PM - 5/11/22 - 4:00-5:00, 5/12/22 - 4:00-5:00

|                    | 5/11/2022 |       | 5/12/2022 |       | Average Weekday |      |
|--------------------|-----------|-------|-----------|-------|-----------------|------|
|                    | AM        | PM    | AM        | PM    | AM              | PM   |
| Eastbound Left     | 1         | 0     | 0         | 0     | 1               | 0    |
| Eastbound Through  | 70        | 133   | 87        | 132   | 79              | 133  |
| Eastbound Right    | 2         | 10    | 4         | 7     | 3               | 9    |
| EB PHF             | 0.792     | 0.73  | 0.774     | 0.89  | 0.78            | 0.81 |
| % HV               | 3.9       | 2.1   | 5.2       | 4.8   | 5               | 3    |
| Peds               | 0         | 0     | 0         | 0     | 0               | 0    |
|                    |           |       |           |       |                 |      |
| Westbound Left     | 84        | 69    | 61        | 89    | 73              | 79   |
| Westbound Through  | 64        | 97    | 56        | 112   | 60              | 105  |
| Westbound Right    | 1         | 0     | 0         | 0     | 1               | 0    |
| WB PHF             | 0.886     | 0.704 | 0.803     | 0.831 | 0.84            | 0.77 |
| % HV               | 4.5       | 1.8   | 4.1       | 2.4   | 4               | 2    |
| Peds               | 0         | 0     | 0         | 0     | 0               | 0    |
|                    |           |       |           |       |                 |      |
| Northbound Left    | 3         | 12    | 3         | 11    | 3               | 12   |
| Northbound Through | 0         | 1     | 2         | 2     | 1               | 2    |
| Northbound Right   | 73        | 111   | 64        | 116   | 69              | 114  |
| NB PHF             | 0.87      | 0.822 | 0.961     | 0.84  | 1               | 1    |
| % HV               | 5         | 0.8   | 5.5       | 1.5   | 5               | 1    |
| Peds               | 0         | 0     | 1         | 0     | 1               | 0    |
|                    |           |       |           |       |                 |      |
| Southbound Left    | 2         | 1     | 1         | 1     | 2               | 1    |
| Southbound Through | 0         | 1     | 0         | 1     | 0               | 1    |
| Southbound Right   | 0         | 1     | 1         | 2     | 1               | 2    |
| SB PHF             | 0.25      | 0.75  | 0.5       | 0.417 | 0.38            | 0.58 |
| % HV               | 0         | 0     | 0         | 20.0  | 0               | 10   |
| Peds               | 0         | 0     | 2         | 0     | 1               | 0    |



## Proposed Lakeshore Village Development

### Traffic Count Data - Lakeshore Road @ Mudd Mill Road

Peaks:     AM - 5/11/221 - 7:45-8:45, 5/18/22 - 7:15-8:15  
              PM - 5/11/22 - 4:00-5:00, 5/18/22 - 4:00-5:00

|                    | 5/11/2022 |       | 5/18/2022 |       | Average Weekday |      |
|--------------------|-----------|-------|-----------|-------|-----------------|------|
|                    | AM        | PM    | AM        | PM    | AM              | PM   |
| Eastbound Left     | 9         | 52    | 12        | 38    | 11              | 45   |
| Eastbound Through  | 71        | 152   | 55        | 142   | 63              | 147  |
| Eastbound Right    | 0         | 0     | 0         | 0     | 0               | 0    |
| EB PHF             | 0.902     | 0.827 | 0.833     | 0.826 | 0.87            | 0.83 |
| % HV               | 3.6       | 0.5   | 4.3       | 2.7   | 4               | 2    |
| Peds               | 0         | 0     | 0         | 0     | 0               | 0    |
|                    |           |       |           |       |                 |      |
| Westbound Left     | 0         | 0     | 0         | 0     | 0               | 0    |
| Westbound Through  | 88        | 85    | 102       | 124   | 95              | 105  |
| Westbound Right    | 44        | 102   | 53        | 96    | 49              | 99   |
| WB PHF             | 0.953     | 0.851 | 0.755     | 0.854 | 0.85            | 0.85 |
| % HV               | 6.4       | 3.6   | 4.9       | 3.9   | 6               | 4    |
| Peds               | 0         | 0     | 0         | 0     | 0               | 0    |
|                    |           |       |           |       |                 |      |
| Northbound Left    | 0         | 0     | 0         | 0     | 0               | 0    |
| Northbound Through | 0         | 0     | 0         | 0     | 0               | 0    |
| Northbound Right   | 0         | 0     | 0         | 0     | 0               | 0    |
| NB PHF             | 0         | 0     | 0         | 0     | 0               | 0    |
| % HV               | 0         | 0     | 0         | 0     | 0               | 0    |
| Peds               | 0         | 0     | 0         | 0     | 0               | 0    |
|                    |           |       |           |       |                 |      |
| Southbound Left    | 67        | 85    | 73        | 73    | 70              | 79   |
| Southbound Through | 0         | 0     | 0         | 0     | 0               | 0    |
| Southbound Right   | 25        | 24    | 29        | 33    | 27              | 29   |
| SB PHF             | 0.884     | 0.895 | 0.938     | 0.737 | 0.91            | 0.82 |
| % HV               | 7.1       | 1.8   | 2.9       | 5.4   | 5               | 4    |
| Peds               | 0         | 1     | 0         | 0     | 0               | 1    |



## Proposed Lakeshore Village Development

### Traffic Count Data - Route 31 @ Lakeshore Road East

Peaks:     AM - 5/11/221 - 7:00-8:00, 5/12/22 - 7:15-8:15  
              PM - 5/11/22 - 4:00-5:00, 5/12/22 - 4:30-5:30

|                    | 5/11/2022 |       | 5/18/2022 |       | Average Weekday |      |
|--------------------|-----------|-------|-----------|-------|-----------------|------|
|                    | AM        | PM    | AM        | PM    | AM              | PM   |
| Eastbound Left     | 14        | 37    | 13        | 40    | 14              | 39   |
| Eastbound Through  | 183       | 388   | 183       | 375   | 183             | 382  |
| Eastbound Right    | 0         | 0     | 0         | 0     | 0               | 0    |
| EB PHF             | 0.905     | 0.878 | 0.864     | 0.861 | 0.88            | 0.87 |
| % HV               | 1.0       | 1.0   | 0.5       | 0.0   | 1               | 1    |
| Peds               | 2         | 0     | 1         | 0     | 2               | 0    |
|                    |           |       |           |       |                 |      |
| Westbound Left     | 0         | 0     | 0         | 0     | 0               | 0    |
| Westbound Through  | 229       | 317   | 223       | 318   | 226             | 318  |
| Westbound Right    | 17        | 43    | 25        | 41    | 21              | 42   |
| WB PHF             | 0.895     | 0.891 | 0.899     | 0.889 | 0.90            | 0.89 |
| % HV               | 0.4       | 0.0   | 0.0       | 0.0   | 0               | 0    |
| Peds               | 0         | 0     | 0         | 0     | 0               | 0    |
|                    |           |       |           |       |                 |      |
| Northbound Left    | 0         | 0     | 0         | 0     | 0               | 0    |
| Northbound Through | 0         | 0     | 0         | 0     | 0               | 0    |
| Northbound Right   | 0         | 0     | 0         | 0     | 0               | 0    |
| NB PHF             | 0         | 0     | 0         | 0     | 0               | 0    |
| % HV               | 0         | 0     | 0         | 0     | 0               | 0    |
| Peds               | 0         | 0     | 0         | 0     | 0               | 0    |
|                    |           |       |           |       |                 |      |
| Southbound Left    | 24        | 35    | 26        | 36    | 25              | 36   |
| Southbound Through | 0         | 0     | 0         | 0     | 0               | 0    |
| Southbound Right   | 32        | 23    | 25        | 12    | 29              | 18   |
| SB PHF             | 0.838     | 0.763 | 0.75      | 0.857 | 0.79            | 0.81 |
| % HV               | 1.8       | 0     | 0         | 0.0   | 1               | 0    |
| Peds               | 0         | 0     | 0         | 0     | 0               | 0    |



## Proposed Lakeshore Village Development

### Traffic Count Data - Route 31 @ Cicero Center Road

Peaks:     AM - 5/12/22 - 7:15-8:15, 5/19/22 - 7:15-8:15  
              PM - 5/12/22 - 4:00-5:00, 5/19/22 - 4:30-5:30

|                    | 5/12/2022 |       | 5/19/2022 |       | Average Weekday |      |
|--------------------|-----------|-------|-----------|-------|-----------------|------|
|                    | AM        | PM    | AM        | PM    | AM              | PM   |
| Eastbound Left     | 22        | 55    | 24        | 61    | 23              | 58   |
| Eastbound Through  | 190       | 382   | 193       | 374   | 192             | 378  |
| Eastbound Right    | 8         | 20    | 13        | 18    | 11              | 19   |
| EB PHF             | 0.953     | 0.859 | 0.898     | 0.906 | 0.93            | 0.88 |
| % HV               | 2.2       | 0.0   | 1.3       | 0.0   | 2               | 0    |
| Peds               | 0         | 0     | 0         | 0     | 0               | 0    |
|                    |           |       |           |       |                 |      |
| Westbound Left     | 7         | 4     | 7         | 6     | 7               | 5    |
| Westbound Through  | 232       | 316   | 219       | 346   | 226             | 331  |
| Westbound Right    | 3         | 13    | 6         | 12    | 5               | 13   |
| WB PHF             | 0.914     | 0.908 | 0.892     | 0.948 | 0.90            | 0.93 |
| % HV               | 1.2       | 0.3   | 3.4       | 1.6   | 2               | 1    |
| Peds               | 0         | 1     | 0         | 0     | 0               | 1    |
|                    |           |       |           |       |                 |      |
| Northbound Left    | 6         | 16    | 10        | 15    | 8               | 16   |
| Northbound Through | 5         | 32    | 2         | 27    | 4               | 30   |
| Northbound Right   | 4         | 5     | 3         | 16    | 4               | 11   |
| NB PHF             | 0.75      | 0.828 | 0.536     | 0.625 | 1               | 1    |
| % HV               | 0         | 0     | 0         | 0     | 0               | 0    |
| Peds               | 0         | 0     | 0         | 0     | 0               | 0    |
|                    |           |       |           |       |                 |      |
| Southbound Left    | 2         | 9     | 3         | 11    | 3               | 10   |
| Southbound Through | 17        | 12    | 16        | 10    | 17              | 11   |
| Southbound Right   | 42        | 26    | 46        | 34    | 44              | 30   |
| SB PHF             | 0.726     | 0.839 | 0.707     | 0.809 | 0.72            | 0.82 |
| % HV               | 0         | 0     | 0         | 0.0   | 0               | 0    |
| Peds               | 0         | 0     | 0         | 0     | 0               | 0    |



## Proposed Lakeshore Village Development

### Traffic Count Data - Route 31 @ South Bay Road

Peaks:     AM - 5/11/221 - 7:00-8:00, 5/19/22 - 7:15-8:15  
              PM - 5/11/22 - 4:45-5:45, 5/19/22 - 4:30-5:30

|                    | 5/11/2022 |       | 5/19/2022 |       | Average Weekday |      |
|--------------------|-----------|-------|-----------|-------|-----------------|------|
|                    | AM        | PM    | AM        | PM    | AM              | PM   |
| Eastbound Left     | 15        | 50    | 20        | 50    | 18              | 50   |
| Eastbound Through  | 181       | 375   | 183       | 357   | 182             | 366  |
| Eastbound Right    | 50        | 86    | 66        | 98    | 58              | 92   |
| EB PHF             | 0.89      | 0.946 | 0.921     | 0.902 | 0.91            | 0.92 |
| % HV               | 5.4       | 0.0   | 3.9       | 3.4   | 5               | 2    |
| Peds               | 0         | 1     | 0         | 0     | 0               | 1    |
|                    |           |       |           |       |                 |      |
| Westbound Left     | 142       | 96    | 116       | 128   | 129             | 112  |
| Westbound Through  | 166       | 278   | 189       | 291   | 178             | 285  |
| Westbound Right    | 3         | 18    | 7         | 14    | 5               | 16   |
| WB PHF             | 0.943     | 0.975 | 0.899     | 0.877 | 0.92            | 0.93 |
| % HV               | 1.9       | 0.5   | 2.5       | 5.0   | 2               | 3    |
| Peds               | 0         | 0     | 0         | 0     | 0               | 0    |
|                    |           |       |           |       |                 |      |
| Northbound Left    | 52        | 55    | 53        | 70    | 53              | 63   |
| Northbound Through | 82        | 300   | 69        | 247   | 76              | 274  |
| Northbound Right   | 42        | 154   | 73        | 171   | 58              | 163  |
| NB PHF             | 0.797     | 0.892 | 0.884     | 0.837 | 1               | 1    |
| % HV               | 4.9       | 0.2   | 4.9       | 2.8   | 5               | 2    |
| Peds               | 0         | 0     | 0         | 0     | 0               | 0    |
|                    |           |       |           |       |                 |      |
| Southbound Left    | 7         | 9     | 5         | 4     | 6               | 7    |
| Southbound Through | 241       | 154   | 243       | 128   | 242             | 141  |
| Southbound Right   | 57        | 44    | 47        | 42    | 52              | 43   |
| SB PHF             | 0.905     | 0.95  | 0.884     | 0.746 | 0.89            | 0.85 |
| % HV               | 3.2       | 1     | 0.7       | 2.8   | 2               | 2    |
| Peds               | 0         | 0     | 0         | 0     | 0               | 0    |



## Proposed Lakeshore Village Development

### Traffic Count Data - Route 31 @ Lakeshore Road West

Peaks: AM - 5/12/22 - 7:00-8:00, 5/18/22 - 7:15-8:15  
PM - 5/12/22 - 4:30-5:30, 5/18/22 - 4:00-5:00

|                    | 5/12/2022 |       | 5/18/2022 |       | Average Weekday |      |
|--------------------|-----------|-------|-----------|-------|-----------------|------|
|                    | AM        | PM    | AM        | PM    | AM              | PM   |
| Eastbound Left     | 123       | 446   | 148       | 474   | 136             | 460  |
| Eastbound Through  | 816       | 781   | 717       | 723   | 767             | 752  |
| Eastbound Right    | 0         | 0     | 1         | 0     | 1               | 0    |
| EB PHF             | 0.804     | 0.907 | 0.775     | 0.941 | 0.79            | 0.92 |
| % HV               | 1.4       | 0.8   | 3.5       | 0.7   | 2               | 1    |
| Peds               | 0         | 0     | 0         | 0     | 0               | 0    |
|                    |           |       |           |       |                 |      |
| Westbound Left     | 0         | 0     | 0         | 0     | 0               | 0    |
| Westbound Through  | 547       | 717   | 511       | 721   | 529             | 719  |
| Westbound Right    | 0         | 0     | 1         | 1     | 1               | 1    |
| WB PHF             | 0.79      | 0.9   | 0.876     | 0.957 | 0.83            | 0.93 |
| % HV               | 1.1       | 1.9   | 5.7       | 1.8   | 3               | 2    |
| Peds               | 1         | 0     | 1         | 0     | 1               | 0    |
|                    |           |       |           |       |                 |      |
| Northbound Left    | 0         | 0     | 0         | 0     | 0               | 0    |
| Northbound Through | 0         | 0     | 0         | 0     | 0               | 0    |
| Northbound Right   | 0         | 0     | 0         | 0     | 0               | 0    |
| NB PHF             | 0         | 0     | 0         | 0     | 0               | 0    |
| % HV               | 0         | 0     | 0         | 0     | 0               | 0    |
| Peds               | 2         | 0     | 0         | 0     | 1               | 0    |
|                    |           |       |           |       |                 |      |
| Southbound Left    | 0         | 0     | 0         | 0     | 0               | 0    |
| Southbound Through | 0         | 0     | 0         | 0     | 0               | 0    |
| Southbound Right   | 496       | 289   | 482       | 335   | 489             | 312  |
| SB PHF             | 0.909     | 0.873 | 0.947     | 0.951 | 0.93            | 0.91 |
| % HV               | 0.4       | 0.3   | 0.6       | 3.2   | 1               | 2    |
| Peds               | 0         | 0     | 1         | 0     | 1               | 0    |



## Proposed Lakeshore Village Development

### Traffic Count Data - Route 31 @ I-81 NB Ramp / Pardee Road

Peaks:     AM - 5/18/221 - 7:15-8:15, 5/19/22 - 7:15-8:15  
              PM - 5/18/22 - 4:30-5:30, 5/19/22 - 4:45-5:45

|                    | 5/18/2022 |       | 5/19/2022 |       | Average Weekday |             |
|--------------------|-----------|-------|-----------|-------|-----------------|-------------|
|                    | AM        | PM    | AM        | PM    | AM              | PM          |
| Eastbound Left     | 85        | 206   | 71        | 259   | <b>78</b>       | <b>233</b>  |
| Eastbound Through  | 583       | 705   | 560       | 716   | <b>572</b>      | <b>711</b>  |
| Eastbound Right    | 0         | 0     | 0         | 0     | <b>0</b>        | <b>0</b>    |
| EB PHF             | 0.85      | 0.75  | 0.805     | 0.925 | <b>0.83</b>     | <b>0.84</b> |
| % HV               | 3.7       | 2.3   | 3.5       | 2.4   | <b>4</b>        | <b>2</b>    |
| Peds               | 0         | 0     | 1         | 0     | <b>1</b>        | <b>0</b>    |
|                    |           |       |           |       |                 |             |
| Westbound Left     | 1         | 0     | 0         | 0     | <b>1</b>        | <b>0</b>    |
| Westbound Through  | 942       | 804   | 839       | 834   | <b>891</b>      | <b>819</b>  |
| Westbound Right    | 114       | 241   | 99        | 207   | <b>107</b>      | <b>224</b>  |
| WB PHF             | 0.91      | 0.949 | 0.898     | 0.9   | <b>0.90</b>     | <b>0.92</b> |
| % HV               | 2.2       | 2.4   | 2.9       | 2.3   | <b>3</b>        | <b>2</b>    |
| Peds               | 0         | 0     | 1         | 0     | <b>1</b>        | <b>0</b>    |
|                    |           |       |           |       |                 |             |
| Northbound Left    | 144       | 314   | 117       | 280   | <b>131</b>      | <b>297</b>  |
| Northbound Through | 52        | 106   | 54        | 100   | <b>53</b>       | <b>103</b>  |
| Northbound Right   | 314       | 515   | 293       | 488   | <b>304</b>      | <b>502</b>  |
| NB PHF             | 0.877     | 0.834 | 0.9       | 0.836 | <b>1</b>        | <b>1</b>    |
| % HV               | 5         | 4.4   | 5.9       | 2.5   | <b>5</b>        | <b>3</b>    |
| Peds               | 0         | 2     | 1         | 1     | <b>1</b>        | <b>2</b>    |
|                    |           |       |           |       |                 |             |
| Southbound Left    | 0         | 0     | 0         | 0     | <b>0</b>        | <b>0</b>    |
| Southbound Through | 0         | 0     | 0         | 0     | <b>0</b>        | <b>0</b>    |
| Southbound Right   | 110       | 114   | 131       | 105   | <b>121</b>      | <b>110</b>  |
| SB PHF             | 0.897     | 0.599 | 0.784     | 0.895 | <b>0.84</b>     | <b>0.75</b> |
| % HV               | 9.8       | 0.9   | 5.1       | 5.4   | <b>7</b>        | <b>3</b>    |
| Peds               | 0         | 1     | 1         | 1     | <b>1</b>        | <b>1</b>    |



## Proposed Lakeshore Village Development

### Traffic Count Data - Route 31 @ I-81 SB Ramps

Peaks:     AM - 5/11/221 - 7:00-8:00, 5/19/22 - 7:15-8:15  
              PM - 5/11/22 - 4:45-5:45, 5/19/22 - 4:15-5:15

|                    | 5/11/2022 |       | 5/19/2022 |       | Average Weekday |      |
|--------------------|-----------|-------|-----------|-------|-----------------|------|
|                    | AM        | PM    | AM        | PM    | AM              | PM   |
| Eastbound Left     | 0         | 0     | 0         | 259   | 0               | 130  |
| Eastbound Through  | 521       | 917   | 495       | 876   | 508             | 897  |
| Eastbound Right    | 319       | 217   | 303       | 240   | 311             | 229  |
| EB PHF             | 0.856     | 0.937 | 0.903     | 0.915 | 0.88            | 0.93 |
| % HV               | 1.5       | 0.4   | 1.4       | 2.6   | 1               | 2    |
| Peds               | 0         | 0     | 0         | 0     | 0               | 0    |
|                    |           |       |           |       |                 |      |
| Westbound Left     | 588       | 325   | 526       | 309   | 557             | 317  |
| Westbound Through  | 525       | 888   | 529       | 947   | 527             | 918  |
| Westbound Right    | 12        | 0     | 0         | 0     | 6               | 0    |
| WB PHF             | 0.955     | 0.951 | 0.925     | 0.962 | 0.94            | 0.96 |
| % HV               | 0.8       | 0.5   | 2.0       | 1.4   | 1               | 1    |
| Peds               | 0         | 0     | 0         | 0     | 0               | 0    |
|                    |           |       |           |       |                 |      |
| Northbound Left    | 0         | 0     | 0         | 0     | 0               | 0    |
| Northbound Through | 0         | 0     | 0         | 0     | 0               | 0    |
| Northbound Right   | 0         | 0     | 0         | 0     | 0               | 0    |
| NB PHF             | 0         | 0     | 0         | 0     | 0               | 0    |
| % HV               | 0         | 0     | 0         | 0     | 0               | 0    |
| Peds               | 0         | 0     | 1         | 1     | 1               | 1    |
|                    |           |       |           |       |                 |      |
| Southbound Left    | 156       | 121   | 135       | 118   | 146             | 120  |
| Southbound Through | 2         | 9     | 0         | 1     | 1               | 5    |
| Southbound Right   | 117       | 93    | 142       | 133   | 130             | 113  |
| SB PHF             | 0.918     | 0.792 | 0.894     | 0.885 | 0.91            | 0.84 |
| % HV               | 1.4       | 2.2   | 3.1       | 3.8   | 2               | 3    |
| Peds               | 0         | 0     | 0         | 2     | 0               | 1    |



## Proposed Lakeshore Village Development

### Traffic Count Data - Route 31 @ Route 11

Peaks:     AM - 5/12/221 - 7:15-8:15, 5/19/22 - 7:15-8:15  
              PM - 5/12/22 - 4:30-5:30, 5/19/22 - 4:30-5:30

|                    | 5/12/2022 |       | 5/19/2022 |       | Average Weekday |             |
|--------------------|-----------|-------|-----------|-------|-----------------|-------------|
|                    | AM        | PM    | AM        | PM    | AM              | PM          |
| Eastbound Left     | 51        | 56    | 50        | 54    | <b>51</b>       | <b>55</b>   |
| Eastbound Through  | 529       | 396   | 517       | 399   | <b>523</b>      | <b>398</b>  |
| Eastbound Right    | 43        | 97    | 42        | 86    | <b>43</b>       | <b>92</b>   |
| EB PHF             | 0.915     | 0.93  | 0.844     | 0.967 | <b>0.88</b>     | <b>0.95</b> |
| % HV               | 3.3       | 0.9   | 3.0       | 1.8   | <b>3</b>        | <b>1</b>    |
| Peds               | 0         | 0     | 0         | 0     | <b>0</b>        | <b>0</b>    |
|                    |           |       |           |       |                 |             |
| Westbound Left     | 275       | 375   | 281       | 402   | <b>278</b>      | <b>389</b>  |
| Westbound Through  | 350       | 507   | 310       | 521   | <b>330</b>      | <b>514</b>  |
| Westbound Right    | 71        | 94    | 102       | 130   | <b>87</b>       | <b>112</b>  |
| WB PHF             | 0.91      | 0.809 | 0.958     | 0.9   | <b>0.93</b>     | <b>0.85</b> |
| % HV               | 4.4       | 1.1   | 4.3       | 1.5   | <b>4</b>        | <b>1</b>    |
| Peds               | 0         | 0     | 0         | 1     | <b>0</b>        | <b>1</b>    |
|                    |           |       |           |       |                 |             |
| Northbound Left    | 39        | 119   | 25        | 106   | <b>32</b>       | <b>113</b>  |
| Northbound Through | 65        | 258   | 93        | 284   | <b>79</b>       | <b>271</b>  |
| Northbound Right   | 181       | 478   | 168       | 467   | <b>175</b>      | <b>473</b>  |
| NB PHF             | 0.839     | 0.995 | 0.896     | 0.901 | <b>1</b>        | <b>1</b>    |
| % HV               | 2.4       | 0.1   | 2.7       | 0.5   | <b>3</b>        | <b>0</b>    |
| Peds               | 0         | 0     | 0         | 0     | <b>0</b>        | <b>0</b>    |
|                    |           |       |           |       |                 |             |
| Southbound Left    | 95        | 166   | 101       | 178   | <b>98</b>       | <b>172</b>  |
| Southbound Through | 109       | 145   | 115       | 182   | <b>112</b>      | <b>164</b>  |
| Southbound Right   | 24        | 72    | 33        | 84    | <b>29</b>       | <b>78</b>   |
| SB PHF             | 0.715     | 0.835 | 0.774     | 0.878 | <b>0.74</b>     | <b>0.86</b> |
| % HV               | 6.2       | 2.8   | 4.2       | 2.0   | <b>5</b>        | <b>2</b>    |
| Peds               | 0         | 0     | 0         | 0     | <b>0</b>        | <b>0</b>    |



## Proposed Lakeshore Village Development

### Traffic Count Data - South Bay Road @ Thompson Road

Peaks:     AM - 5/18/221 - 7:15-8:15, 5/19/22 - 7:15-8:15  
              PM - 5/18/22 - 4:30-5:30, 5/19/22 - 4:00-5:00

|                    | 5/18/2022 |       | 5/19/2022 |       | Average Weekday |      |
|--------------------|-----------|-------|-----------|-------|-----------------|------|
|                    | AM        | PM    | AM        | PM    | AM              | PM   |
| Eastbound Left     | 251       | 222   | 177       | 285   | 214             | 254  |
| Eastbound Through  | 314       | 297   | 145       | 328   | 230             | 313  |
| Eastbound Right    | 5         | 2     | 4         | 1     | 5               | 2    |
| EB PHF             | 0.878     | 0.939 | 0.897     | 0.745 | 0.89            | 0.84 |
| % HV               | 1.0       | 0.2   | 1.2       | 0.0   | 1               | 0    |
| Peds               | 0         | 0     | 0         | 0     | 0               | 0    |
|                    |           |       |           |       |                 |      |
| Westbound Left     | 175       | 91    | 232       | 91    | 204             | 91   |
| Westbound Through  | 148       | 263   | 290       | 243   | 219             | 253  |
| Westbound Right    | 2         | 25    | 9         | 13    | 6               | 19   |
| WB PHF             | 0.863     | 0.88  | 0.854     | 0.729 | 0.86            | 0.80 |
| % HV               | 0.9       | 0.3   | 0.9       | 0.9   | 1               | 1    |
| Peds               | 0         | 0     | 0         | 0     | 0               | 0    |
|                    |           |       |           |       |                 |      |
| Northbound Left    | 8         | 16    | 3         | 16    | 6               | 16   |
| Northbound Through | 212       | 272   | 106       | 248   | 159             | 260  |
| Northbound Right   | 196       | 217   | 61        | 161   | 129             | 189  |
| NB PHF             | 0.768     | 0.956 | 0.833     | 0.928 | 1               | 1    |
| % HV               | 1.2       | 3.2   | 5.6       | 0.5   | 3               | 2    |
| Peds               | 0         | 0     | 0         | 0     | 0               | 0    |
|                    |           |       |           |       |                 |      |
| Southbound Left    | 7         | 7     | 4         | 9     | 6               | 8    |
| Southbound Through | 107       | 122   | 219       | 120   | 163             | 121  |
| Southbound Right   | 58        | 213   | 223       | 171   | 141             | 192  |
| SB PHF             | 0.885     | 0.905 | 0.88      | 0.781 | 0.88            | 0.84 |
| % HV               | 2.8       | 0.6   | 0.2       | 1.0   | 2               | 1    |
| Peds               | 1         | 0     | 0         | 0     | 1               | 0    |



File Name : 1 - Lakeshore @ Cicero Center - 5-11-22

Site Code : 00000001

Start Date : 5/11/2022

Page No : 1

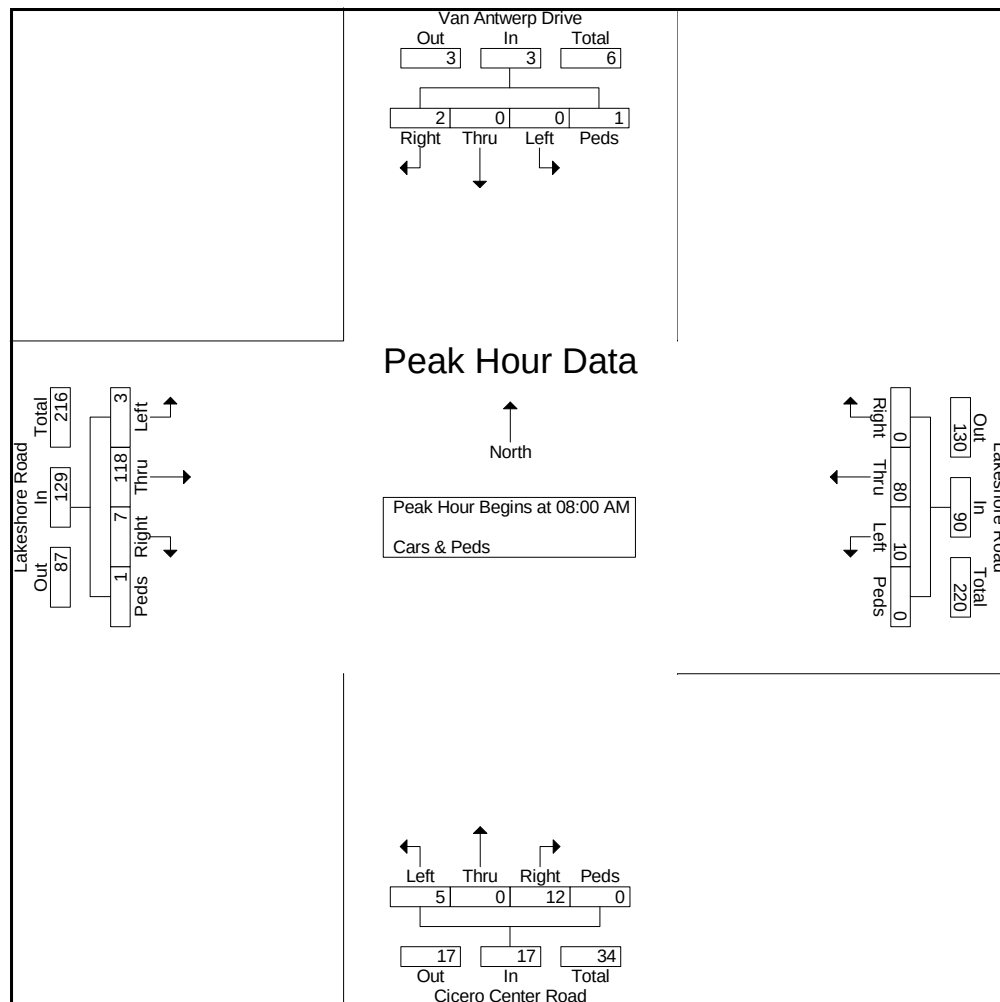
Groups Printed- Cars & Peds

|             | Van Antwerp Drive<br>Southbound |      |      |      | Lakeshore Road<br>Westbound |      |      |      | Cicero Center Road<br>Northbound |      |      |      | Lakeshore Road<br>Eastbound |      |      |      | Int. Total |
|-------------|---------------------------------|------|------|------|-----------------------------|------|------|------|----------------------------------|------|------|------|-----------------------------|------|------|------|------------|
| Start Time  | Right                           | Thru | Left | Peds | Right                       | Thru | Left | Peds | Right                            | Thru | Left | Peds | Right                       | Thru | Left | Peds |            |
| 07:00 AM    | 0                               | 0    | 0    | 0    | 0                           | 24   | 2    | 0    | 1                                | 0    | 3    | 0    | 3                           | 9    | 0    | 0    | 42         |
| 07:15 AM    | 0                               | 0    | 0    | 0    | 0                           | 21   | 1    | 0    | 0                                | 1    | 0    | 0    | 3                           | 11   | 0    | 0    | 37         |
| 07:30 AM    | 0                               | 0    | 0    | 0    | 0                           | 23   | 4    | 0    | 1                                | 0    | 4    | 0    | 2                           | 16   | 0    | 0    | 50         |
| 07:45 AM    | 0                               | 0    | 0    | 0    | 0                           | 24   | 0    | 0    | 1                                | 0    | 3    | 0    | 3                           | 29   | 0    | 0    | 60         |
| Total       | 0                               | 0    | 0    | 0    | 0                           | 92   | 7    | 0    | 3                                | 1    | 10   | 0    | 11                          | 65   | 0    | 0    | 189        |
| 08:00 AM    | 0                               | 0    | 0    | 0    | 0                           | 21   | 1    | 0    | 0                                | 0    | 1    | 0    | 1                           | 16   | 1    | 0    | 41         |
| 08:15 AM    | 1                               | 0    | 0    | 0    | 0                           | 16   | 4    | 0    | 1                                | 0    | 0    | 0    | 3                           | 35   | 0    | 0    | 60         |
| 08:30 AM    | 0                               | 0    | 0    | 1    | 0                           | 20   | 1    | 0    | 5                                | 0    | 3    | 0    | 3                           | 27   | 2    | 1    | 63         |
| 08:45 AM    | 1                               | 0    | 0    | 0    | 0                           | 23   | 4    | 0    | 6                                | 0    | 1    | 0    | 0                           | 40   | 0    | 0    | 75         |
| Total       | 2                               | 0    | 0    | 1    | 0                           | 80   | 10   | 0    | 12                               | 0    | 5    | 0    | 7                           | 118  | 3    | 1    | 239        |
| 04:00 PM    | 0                               | 0    | 1    | 0    | 0                           | 47   | 1    | 0    | 4                                | 1    | 9    | 0    | 5                           | 27   | 0    | 0    | 95         |
| 04:15 PM    | 1                               | 0    | 0    | 0    | 0                           | 33   | 3    | 0    | 2                                | 0    | 6    | 0    | 6                           | 18   | 1    | 0    | 70         |
| 04:30 PM    | 0                               | 0    | 0    | 0    | 0                           | 25   | 3    | 0    | 3                                | 0    | 9    | 0    | 5                           | 29   | 1    | 0    | 75         |
| 04:45 PM    | 0                               | 0    | 1    | 0    | 0                           | 15   | 1    | 0    | 2                                | 0    | 6    | 0    | 9                           | 40   | 0    | 2    | 76         |
| Total       | 1                               | 0    | 2    | 0    | 0                           | 120  | 8    | 0    | 11                               | 1    | 30   | 0    | 25                          | 114  | 2    | 2    | 316        |
| 05:00 PM    | 1                               | 0    | 0    | 0    | 0                           | 20   | 1    | 0    | 1                                | 0    | 3    | 0    | 5                           | 34   | 0    | 2    | 67         |
| 05:15 PM    | 1                               | 0    | 0    | 0    | 0                           | 25   | 2    | 0    | 3                                | 0    | 6    | 0    | 4                           | 31   | 2    | 0    | 74         |
| 05:30 PM    | 1                               | 0    | 1    | 0    | 0                           | 20   | 4    | 0    | 4                                | 0    | 9    | 0    | 5                           | 28   | 1    | 0    | 73         |
| 05:45 PM    | 0                               | 0    | 0    | 1    | 0                           | 21   | 3    | 1    | 4                                | 0    | 5    | 0    | 4                           | 31   | 0    | 0    | 70         |
| Total       | 3                               | 0    | 1    | 1    | 0                           | 86   | 10   | 1    | 12                               | 0    | 23   | 0    | 18                          | 124  | 3    | 2    | 284        |
| Grand Total | 6                               | 0    | 3    | 2    | 0                           | 378  | 35   | 1    | 38                               | 2    | 68   | 0    | 61                          | 421  | 8    | 5    | 1028       |
| Apprch %    | 54.5                            | 0    | 27.3 | 18.2 | 0                           | 91.3 | 8.5  | 0.2  | 35.2                             | 1.9  | 63   | 0    | 12.3                        | 85.1 | 1.6  | 1    |            |
| Total %     | 0.6                             | 0    | 0.3  | 0.2  | 0                           | 36.8 | 3.4  | 0.1  | 3.7                              | 0.2  | 6.6  | 0    | 5.9                         | 41   | 0.8  | 0.5  |            |



File Name : 1 - Lakeshore @ Cicero Center - 5-11-22  
 Site Code : 00000001  
 Start Date : 5/11/2022  
 Page No : 2

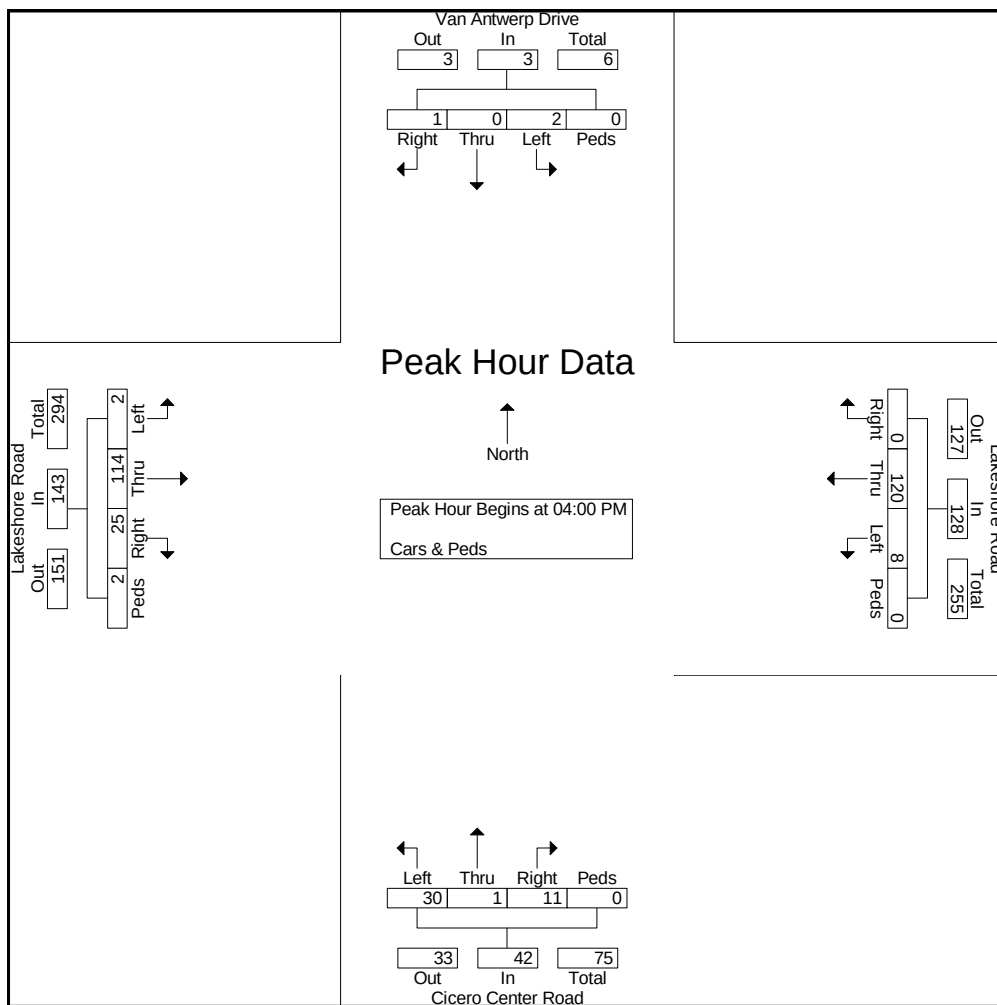
|                                                            | Van Antwerp Drive<br>Southbound |      |      |      |            | Lakeshore Road<br>Westbound |      |      |      |            | Cicero Center Road<br>Northbound |      |      |      |            | Lakeshore Road<br>Eastbound |      |      |      |            |            |
|------------------------------------------------------------|---------------------------------|------|------|------|------------|-----------------------------|------|------|------|------------|----------------------------------|------|------|------|------------|-----------------------------|------|------|------|------------|------------|
| Start Time                                                 | Right                           | Thru | Left | Peds | App. Total | Right                       | Thru | Left | Peds | App. Total | Right                            | Thru | Left | Peds | App. Total | Right                       | Thru | Left | Peds | App. Total | Int. Total |
| Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1 |                                 |      |      |      |            |                             |      |      |      |            |                                  |      |      |      |            |                             |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 08:00 AM       |                                 |      |      |      |            |                             |      |      |      |            |                                  |      |      |      |            |                             |      |      |      |            |            |
| 08:00 AM                                                   | 0                               | 0    | 0    | 0    | 0          | 0                           | 21   | 1    | 0    | 22         | 0                                | 0    | 1    | 0    | 1          | 1                           | 16   | 1    | 0    | 18         | 41         |
| 08:15 AM                                                   | 1                               | 0    | 0    | 0    | 1          | 0                           | 16   | 4    | 0    | 20         | 1                                | 0    | 0    | 0    | 1          | 3                           | 35   | 0    | 0    | 38         | 60         |
| 08:30 AM                                                   | 0                               | 0    | 0    | 1    | 1          | 0                           | 20   | 1    | 0    | 21         | 5                                | 0    | 3    | 0    | 8          | 3                           | 27   | 2    | 1    | 33         | 63         |
| 08:45 AM                                                   | 1                               | 0    | 0    | 0    | 1          | 0                           | 23   | 4    | 0    | 27         | 6                                | 0    | 1    | 0    | 7          | 0                           | 40   | 0    | 0    | 40         | 75         |
| Total Volume                                               | 2                               | 0    | 0    | 1    | 3          | 0                           | 80   | 10   | 0    | 90         | 12                               | 0    | 5    | 0    | 17         | 7                           | 118  | 3    | 1    | 129        | 239        |
| % App. Total                                               | 66.7                            | 0    | 0    | 33.3 |            | 0                           | 88.9 | 11.1 | 0    |            | 70.6                             | 0    | 29.4 | 0    |            | 5.4                         | 91.5 | 2.3  | 0.8  |            |            |
| PHF                                                        | .500                            | .000 | .000 | .250 | .750       | .000                        | .870 | .625 | .000 | .833       | .500                             | .000 | .417 | .000 | .531       | .583                        | .738 | .375 | .250 | .806       | .797       |





File Name : 1 - Lakeshore @ Cicero Center - 5-11-22  
 Site Code : 00000001  
 Start Date : 5/11/2022  
 Page No : 3

|                                                            | Van Antwerp Drive<br>Southbound |      |      |      |            | Lakeshore Road<br>Westbound |      |      |      |            | Cicero Center Road<br>Northbound |      |      |      |            | Lakeshore Road<br>Eastbound |      |      |      |            |            |
|------------------------------------------------------------|---------------------------------|------|------|------|------------|-----------------------------|------|------|------|------------|----------------------------------|------|------|------|------------|-----------------------------|------|------|------|------------|------------|
| Start<br>Time                                              | Right                           | Thru | Left | Peds | App. Total | Right                       | Thru | Left | Peds | App. Total | Right                            | Thru | Left | Peds | App. Total | Right                       | Thru | Left | Peds | App. Total | Int. Total |
| Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1 |                                 |      |      |      |            |                             |      |      |      |            |                                  |      |      |      |            |                             |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 04:00 PM       |                                 |      |      |      |            |                             |      |      |      |            |                                  |      |      |      |            |                             |      |      |      |            |            |
| 04:00 PM                                                   | 0                               | 0    | 1    | 0    | 1          | 0                           | 47   | 1    | 0    | 48         | 4                                | 1    | 9    | 0    | 14         | 5                           | 27   | 0    | 0    | 32         | 95         |
| 04:15 PM                                                   | 1                               | 0    | 0    | 0    | 1          | 0                           | 33   | 3    | 0    | 36         | 2                                | 0    | 6    | 0    | 8          | 6                           | 18   | 1    | 0    | 25         | 70         |
| 04:30 PM                                                   | 0                               | 0    | 0    | 0    | 0          | 0                           | 25   | 3    | 0    | 28         | 3                                | 0    | 9    | 0    | 12         | 5                           | 29   | 1    | 0    | 35         | 75         |
| 04:45 PM                                                   | 0                               | 0    | 1    | 0    | 1          | 0                           | 15   | 1    | 0    | 16         | 2                                | 0    | 6    | 0    | 8          | 9                           | 40   | 0    | 2    | 51         | 76         |
| Total Volume                                               | 1                               | 0    | 2    | 0    | 3          | 0                           | 120  | 8    | 0    | 128        | 11                               | 1    | 30   | 0    | 42         | 25                          | 114  | 2    | 2    | 143        | 316        |
| % App. Total                                               | 33.3                            | 0    | 66.7 | 0    |            | 0                           | 93.8 | 6.2  | 0    |            | 26.2                             | 2.4  | 71.4 | 0    |            | 17.5                        | 79.7 | 1.4  | 1.4  |            |            |
| PHF                                                        | .250                            | .000 | .500 | .000 | .750       | .000                        | .638 | .667 | .000 | .667       | .688                             | .250 | .833 | .000 | .750       | .694                        | .713 | .500 | .250 | .701       | .832       |





File Name : 1 - Lakeshore @ Cicero Center - 5-12-22

Site Code : 00000001

Start Date : 5/12/2022

Page No : 1

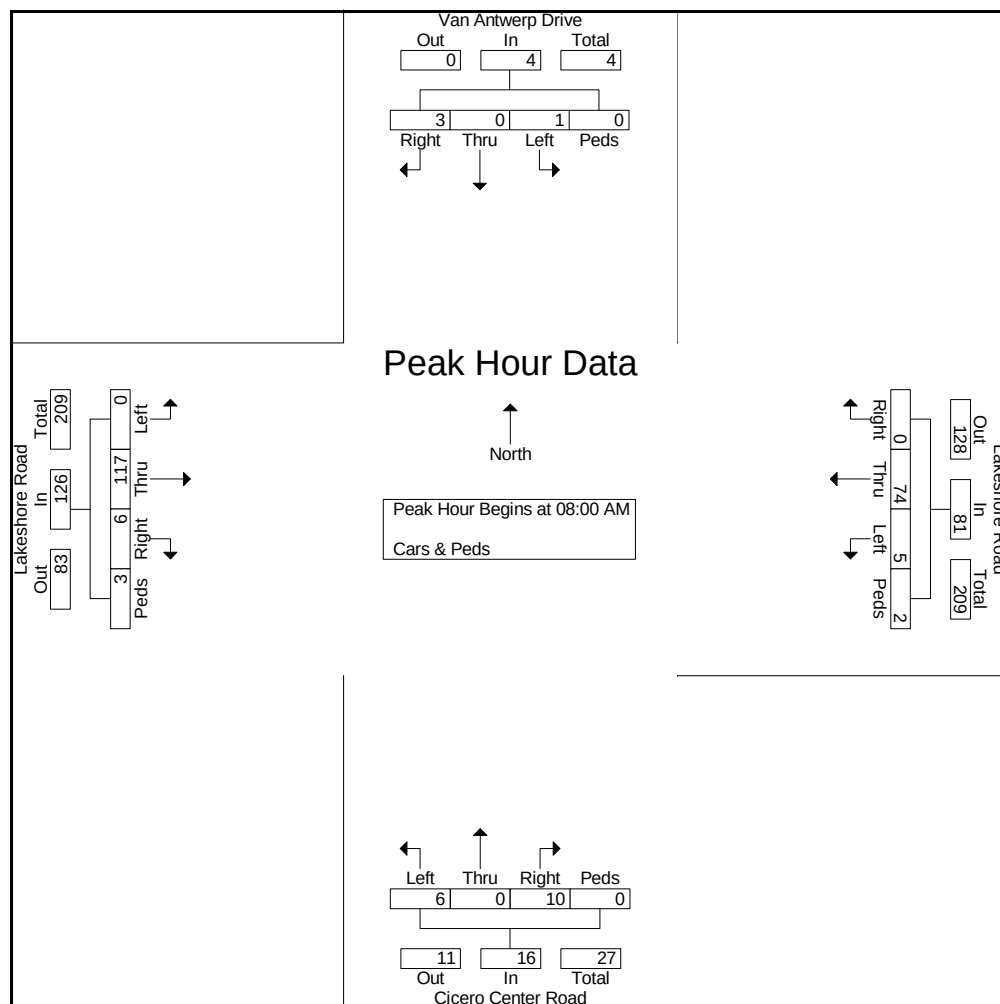
Groups Printed- Cars & Peds

|             | Van Antwerp Drive<br>Southbound |      |      |      | Lakeshore Road<br>Westbound |      |      |      | Cicero Center Road<br>Northbound |      |      |      | Lakeshore Road<br>Eastbound |      |      |      | Int. Total |
|-------------|---------------------------------|------|------|------|-----------------------------|------|------|------|----------------------------------|------|------|------|-----------------------------|------|------|------|------------|
| Start Time  | Right                           | Thru | Left | Peds | Right                       | Thru | Left | Peds | Right                            | Thru | Left | Peds | Right                       | Thru | Left | Peds |            |
| 07:00 AM    | 0                               | 1    | 0    | 0    | 0                           | 23   | 0    | 0    | 0                                | 0    | 3    | 0    | 4                           | 13   | 0    | 0    | 44         |
| 07:15 AM    | 2                               | 0    | 0    | 0    | 0                           | 23   | 1    | 0    | 0                                | 0    | 3    | 0    | 4                           | 7    | 0    | 0    | 40         |
| 07:30 AM    | 0                               | 0    | 0    | 0    | 0                           | 25   | 1    | 1    | 2                                | 0    | 3    | 0    | 1                           | 14   | 0    | 0    | 47         |
| 07:45 AM    | 0                               | 0    | 0    | 0    | 0                           | 25   | 1    | 0    | 2                                | 0    | 3    | 0    | 2                           | 19   | 1    | 0    | 53         |
| Total       | 2                               | 1    | 0    | 0    | 0                           | 96   | 3    | 1    | 4                                | 0    | 12   | 0    | 11                          | 53   | 1    | 0    | 184        |
| 08:00 AM    | 1                               | 0    | 1    | 0    | 0                           | 25   | 1    | 1    | 0                                | 0    | 0    | 0    | 2                           | 23   | 0    | 0    | 54         |
| 08:15 AM    | 1                               | 0    | 0    | 0    | 0                           | 16   | 1    | 0    | 0                                | 0    | 3    | 0    | 2                           | 24   | 0    | 2    | 49         |
| 08:30 AM    | 0                               | 0    | 0    | 0    | 0                           | 16   | 1    | 1    | 4                                | 0    | 3    | 0    | 0                           | 37   | 0    | 0    | 62         |
| 08:45 AM    | 1                               | 0    | 0    | 0    | 0                           | 17   | 2    | 0    | 6                                | 0    | 0    | 0    | 2                           | 33   | 0    | 1    | 62         |
| Total       | 3                               | 0    | 1    | 0    | 0                           | 74   | 5    | 2    | 10                               | 0    | 6    | 0    | 6                           | 117  | 0    | 3    | 227        |
| 04:00 PM    | 0                               | 0    | 0    | 0    | 0                           | 50   | 0    | 1    | 5                                | 0    | 10   | 0    | 5                           | 33   | 0    | 1    | 105        |
| 04:15 PM    | 1                               | 0    | 0    | 0    | 0                           | 31   | 3    | 0    | 3                                | 1    | 9    | 1    | 4                           | 28   | 0    | 2    | 83         |
| 04:30 PM    | 0                               | 0    | 0    | 0    | 0                           | 19   | 0    | 0    | 7                                | 0    | 8    | 0    | 3                           | 37   | 1    | 1    | 76         |
| 04:45 PM    | 0                               | 0    | 0    | 0    | 0                           | 24   | 0    | 1    | 4                                | 0    | 3    | 0    | 4                           | 31   | 0    | 1    | 68         |
| Total       | 1                               | 0    | 0    | 0    | 0                           | 124  | 3    | 2    | 19                               | 1    | 30   | 1    | 16                          | 129  | 1    | 5    | 332        |
| 05:00 PM    | 0                               | 0    | 0    | 0    | 0                           | 23   | 2    | 0    | 4                                | 0    | 5    | 1    | 1                           | 26   | 1    | 1    | 64         |
| 05:15 PM    | 3                               | 0    | 0    | 0    | 0                           | 25   | 3    | 0    | 8                                | 0    | 9    | 0    | 6                           | 23   | 2    | 0    | 79         |
| 05:30 PM    | 1                               | 0    | 0    | 0    | 0                           | 25   | 2    | 0    | 5                                | 0    | 6    | 0    | 8                           | 26   | 0    | 2    | 75         |
| 05:45 PM    | 2                               | 0    | 0    | 0    | 1                           | 19   | 1    | 0    | 4                                | 0    | 5    | 0    | 3                           | 23   | 0    | 0    | 58         |
| Total       | 6                               | 0    | 0    | 0    | 1                           | 92   | 8    | 0    | 21                               | 0    | 25   | 1    | 18                          | 98   | 3    | 3    | 276        |
| Grand Total | 12                              | 1    | 1    | 0    | 1                           | 386  | 19   | 5    | 54                               | 1    | 73   | 2    | 51                          | 397  | 5    | 11   | 1019       |
| Apprch %    | 85.7                            | 7.1  | 7.1  | 0    | 0.2                         | 93.9 | 4.6  | 1.2  | 41.5                             | 0.8  | 56.2 | 1.5  | 11                          | 85.6 | 1.1  | 2.4  |            |
| Total %     | 1.2                             | 0.1  | 0.1  | 0    | 0.1                         | 37.9 | 1.9  | 0.5  | 5.3                              | 0.1  | 7.2  | 0.2  | 5                           | 39   | 0.5  | 1.1  |            |



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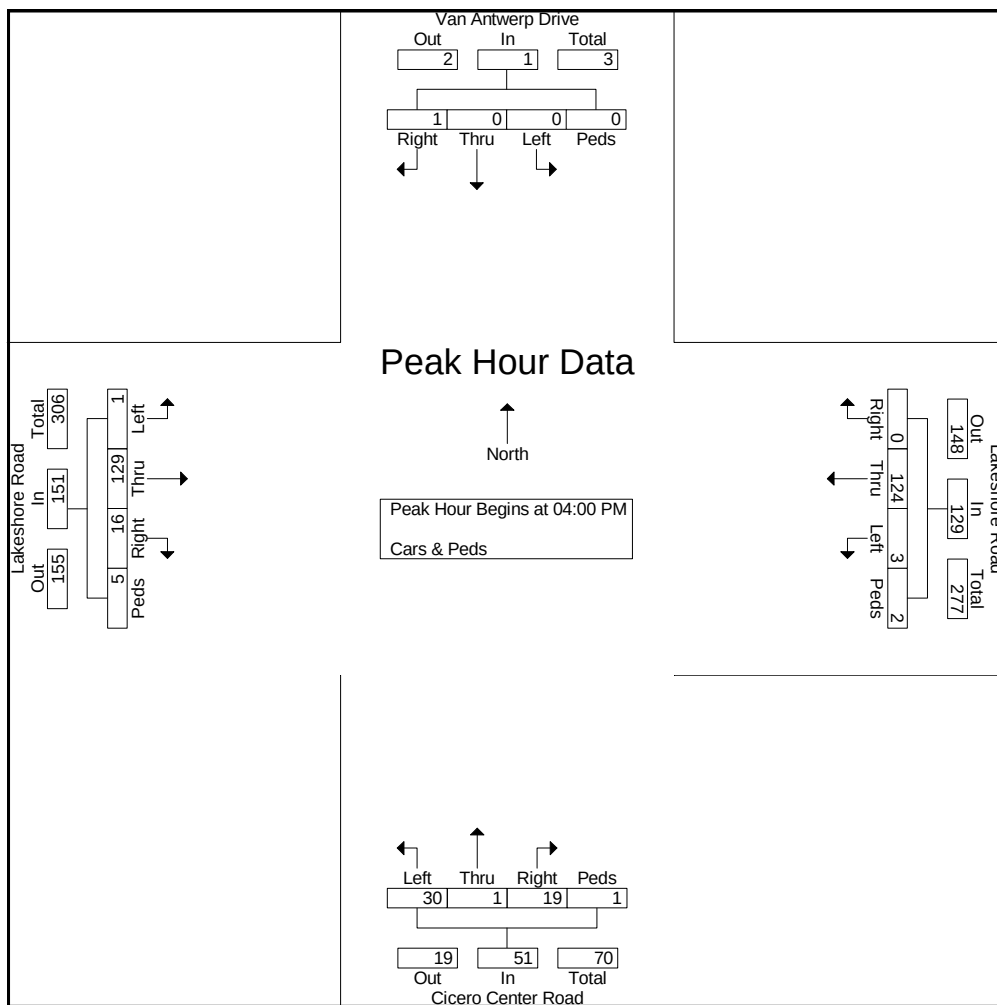
|                                                            | Van Antwerp Drive<br>Southbound |      |      |      |            | Lakeshore Road<br>Westbound |      |      |      |            | Cicero Center Road<br>Northbound |      |      |      |            | Lakeshore Road<br>Eastbound |      |      |      |            |            |
|------------------------------------------------------------|---------------------------------|------|------|------|------------|-----------------------------|------|------|------|------------|----------------------------------|------|------|------|------------|-----------------------------|------|------|------|------------|------------|
| Start Time                                                 | Right                           | Thru | Left | Peds | App. Total | Right                       | Thru | Left | Peds | App. Total | Right                            | Thru | Left | Peds | App. Total | Right                       | Thru | Left | Peds | App. Total | Int. Total |
| Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1 |                                 |      |      |      |            |                             |      |      |      |            |                                  |      |      |      |            |                             |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 08:00 AM       |                                 |      |      |      |            |                             |      |      |      |            |                                  |      |      |      |            |                             |      |      |      |            |            |
| 08:00 AM                                                   | 1                               | 0    | 1    | 0    | 2          | 0                           | 25   | 1    | 1    | 27         | 0                                | 0    | 0    | 0    | 0          | 2                           | 23   | 0    | 0    | 25         | 54         |
| 08:15 AM                                                   | 1                               | 0    | 0    | 0    | 1          | 0                           | 16   | 1    | 0    | 17         | 0                                | 0    | 3    | 0    | 3          | 2                           | 24   | 0    | 2    | 28         | 49         |
| 08:30 AM                                                   | 0                               | 0    | 0    | 0    | 0          | 0                           | 16   | 1    | 1    | 18         | 4                                | 0    | 3    | 0    | 7          | 0                           | 37   | 0    | 0    | 37         | 62         |
| 08:45 AM                                                   | 1                               | 0    | 0    | 0    | 1          | 0                           | 17   | 2    | 0    | 19         | 6                                | 0    | 0    | 0    | 6          | 2                           | 33   | 0    | 1    | 36         | 62         |
| Total Volume                                               | 3                               | 0    | 1    | 0    | 4          | 0                           | 74   | 5    | 2    | 81         | 10                               | 0    | 6    | 0    | 16         | 6                           | 117  | 0    | 3    | 126        | 227        |
| % App. Total                                               | 75                              | 0    | 25   | 0    |            | 0                           | 91.4 | 6.2  | 2.5  |            | 62.5                             | 0    | 37.5 | 0    |            | 4.8                         | 92.9 | 0    | 2.4  |            |            |
| PHF                                                        | .750                            | .000 | .250 | .000 | .500       | .000                        | .740 | .625 | .500 | .750       | .417                             | .000 | .500 | .000 | .571       | .750                        | .791 | .000 | .375 | .851       | .915       |





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|                                                            | Van Antwerp Drive<br>Southbound |      |      |      |            | Lakeshore Road<br>Westbound |      |      |      |            | Cicero Center Road<br>Northbound |      |      |      |            | Lakeshore Road<br>Eastbound |      |      |      |            |            |
|------------------------------------------------------------|---------------------------------|------|------|------|------------|-----------------------------|------|------|------|------------|----------------------------------|------|------|------|------------|-----------------------------|------|------|------|------------|------------|
| Start<br>Time                                              | Right                           | Thru | Left | Peds | App. Total | Right                       | Thru | Left | Peds | App. Total | Right                            | Thru | Left | Peds | App. Total | Right                       | Thru | Left | Peds | App. Total | Int. Total |
| Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1 |                                 |      |      |      |            |                             |      |      |      |            |                                  |      |      |      |            |                             |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 04:00 PM       |                                 |      |      |      |            |                             |      |      |      |            |                                  |      |      |      |            |                             |      |      |      |            |            |
| 04:00 PM                                                   | 0                               | 0    | 0    | 0    | 0          | 0                           | 50   | 0    | 1    | 51         | 5                                | 0    | 10   | 0    | 15         | 5                           | 33   | 0    | 1    | 39         | 105        |
| 04:15 PM                                                   | 1                               | 0    | 0    | 0    | 1          | 0                           | 31   | 3    | 0    | 34         | 3                                | 1    | 9    | 1    | 14         | 4                           | 28   | 0    | 2    | 34         | 83         |
| 04:30 PM                                                   | 0                               | 0    | 0    | 0    | 0          | 0                           | 19   | 0    | 0    | 19         | 7                                | 0    | 8    | 0    | 15         | 3                           | 37   | 1    | 1    | 42         | 76         |
| 04:45 PM                                                   | 0                               | 0    | 0    | 0    | 0          | 0                           | 24   | 0    | 1    | 25         | 4                                | 0    | 3    | 0    | 7          | 4                           | 31   | 0    | 1    | 36         | 68         |
| Total Volume                                               | 1                               | 0    | 0    | 0    | 1          | 0                           | 124  | 3    | 2    | 129        | 19                               | 1    | 30   | 1    | 51         | 16                          | 129  | 1    | 5    | 151        | 332        |
| % App. Total                                               | 100                             | 0    | 0    | 0    |            | 0                           | 96.1 | 2.3  | 1.6  |            | 37.3                             | 2    | 58.8 | 2    |            | 10.6                        | 85.4 | 0.7  | 3.3  |            |            |
| PHF                                                        | .250                            | .000 | .000 | .000 | .250       | .000                        | .620 | .250 | .500 | .632       | .679                             | .250 | .750 | .250 | .850       | .800                        | .872 | .250 | .625 | .899       | .790       |





File Name : 1 - Lakeshore @ Cicero Center - 5-14-22

Site Code : 00000001

Start Date : 5/14/2022

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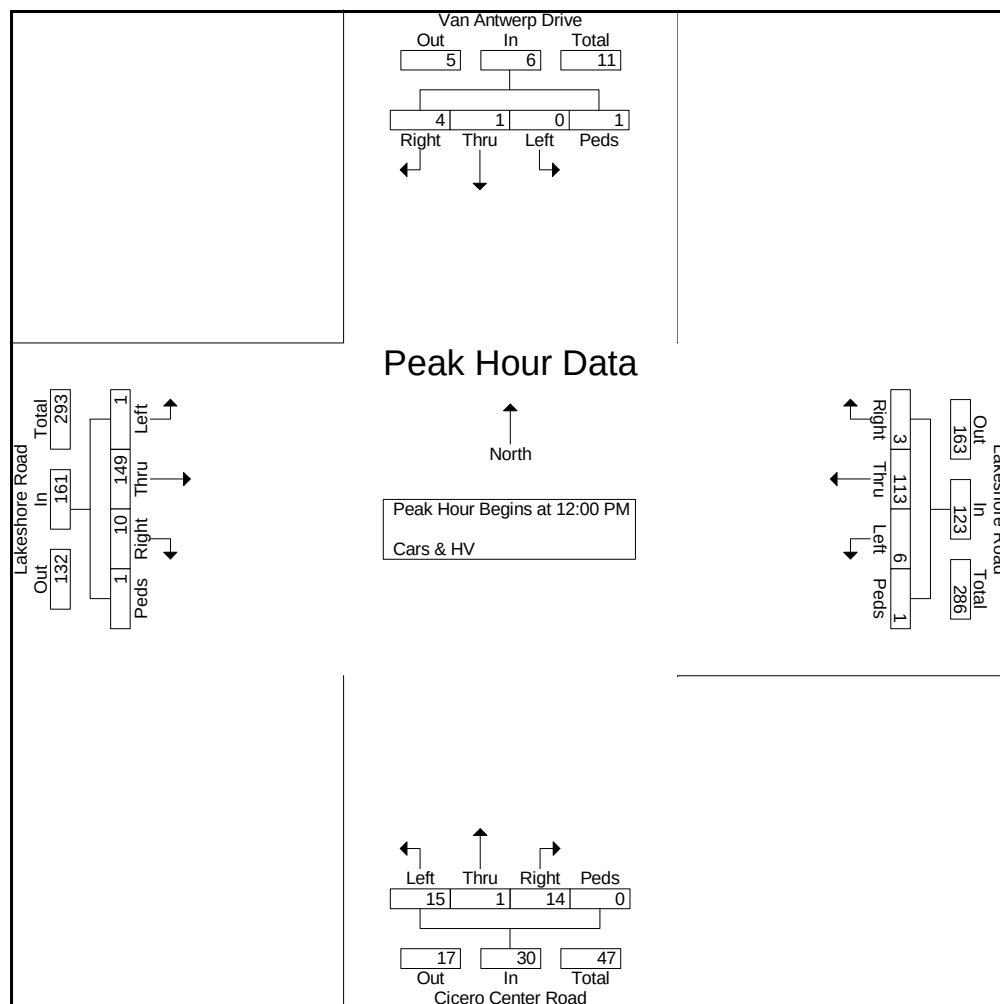
Groups Printed- Cars & HV

|             | Van Antwerp Drive<br>Southbound |      |      |      | Lakeshore Road<br>Westbound |      |      |      | Cicero Center Road<br>Northbound |      |      |      | Lakeshore Road<br>Eastbound |      |      |      | Int. Total |
|-------------|---------------------------------|------|------|------|-----------------------------|------|------|------|----------------------------------|------|------|------|-----------------------------|------|------|------|------------|
| Start Time  | Right                           | Thru | Left | Peds | Right                       | Thru | Left | Peds | Right                            | Thru | Left | Peds | Right                       | Thru | Left | Peds |            |
| 11:00 AM    | 1                               | 0    | 0    | 0    | 0                           | 23   | 1    | 0    | 3                                | 0    | 5    | 0    | 6                           | 18   | 0    | 1    | 58         |
| 11:15 AM    | 0                               | 0    | 0    | 0    | 0                           | 15   | 1    | 0    | 1                                | 1    | 3    | 0    | 0                           | 30   | 1    | 0    | 52         |
| 11:30 AM    | 0                               | 1    | 0    | 0    | 1                           | 27   | 0    | 0    | 6                                | 0    | 5    | 0    | 6                           | 28   | 1    | 0    | 75         |
| 11:45 AM    | 1                               | 0    | 0    | 0    | 0                           | 24   | 1    | 0    | 3                                | 0    | 0    | 0    | 4                           | 27   | 2    | 0    | 62         |
| Total       | 2                               | 1    | 0    | 0    | 1                           | 89   | 3    | 0    | 13                               | 1    | 13   | 0    | 16                          | 103  | 4    | 1    | 247        |
| 12:00 PM    | 3                               | 0    | 0    | 0    | 2                           | 22   | 0    | 0    | 3                                | 0    | 4    | 0    | 3                           | 37   | 0    | 0    | 74         |
| 12:15 PM    | 1                               | 1    | 0    | 0    | 0                           | 28   | 4    | 1    | 2                                | 1    | 2    | 0    | 2                           | 36   | 0    | 0    | 78         |
| 12:30 PM    | 0                               | 0    | 0    | 1    | 0                           | 30   | 0    | 0    | 5                                | 0    | 7    | 0    | 3                           | 40   | 1    | 1    | 88         |
| 12:45 PM    | 0                               | 0    | 0    | 0    | 1                           | 33   | 2    | 0    | 4                                | 0    | 2    | 0    | 2                           | 36   | 0    | 0    | 80         |
| Total       | 4                               | 1    | 0    | 1    | 3                           | 113  | 6    | 1    | 14                               | 1    | 15   | 0    | 10                          | 149  | 1    | 1    | 320        |
| Grand Total | 6                               | 2    | 0    | 1    | 4                           | 202  | 9    | 1    | 27                               | 2    | 28   | 0    | 26                          | 252  | 5    | 2    | 567        |
| Apprch %    | 66.7                            | 22.2 | 0    | 11.1 | 1.9                         | 93.5 | 4.2  | 0.5  | 47.4                             | 3.5  | 49.1 | 0    | 9.1                         | 88.4 | 1.8  | 0.7  |            |
| Total %     | 1.1                             | 0.4  | 0    | 0.2  | 0.7                         | 35.6 | 1.6  | 0.2  | 4.8                              | 0.4  | 4.9  | 0    | 4.6                         | 44.4 | 0.9  | 0.4  |            |



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|                                                            | Van Antwerp Drive Southbound |      |      |      |            | Lakeshore Road Westbound |      |      |      |            | Cicero Center Road Northbound |      |      |      |            | Lakeshore Road Eastbound |      |      |      |            |            |
|------------------------------------------------------------|------------------------------|------|------|------|------------|--------------------------|------|------|------|------------|-------------------------------|------|------|------|------------|--------------------------|------|------|------|------------|------------|
| Start Time                                                 | Right                        | Thru | Left | Peds | App. Total | Right                    | Thru | Left | Peds | App. Total | Right                         | Thru | Left | Peds | App. Total | Right                    | Thru | Left | Peds | App. Total | Int. Total |
| Peak Hour Analysis From 11:00 AM to 12:45 PM - Peak 1 of 1 |                              |      |      |      |            |                          |      |      |      |            |                               |      |      |      |            |                          |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 12:00 PM       |                              |      |      |      |            |                          |      |      |      |            |                               |      |      |      |            |                          |      |      |      |            |            |
| 12:00 PM                                                   | 3                            | 0    | 0    | 0    | 3          | 2                        | 22   | 0    | 0    | 24         | 3                             | 0    | 4    | 0    | 7          | 3                        | 37   | 0    | 0    | 40         | 74         |
| 12:15 PM                                                   | 1                            | 1    | 0    | 0    | 2          | 0                        | 28   | 4    | 1    | 33         | 2                             | 1    | 2    | 0    | 5          | 2                        | 36   | 0    | 0    | 38         | 78         |
| 12:30 PM                                                   | 0                            | 0    | 0    | 1    | 1          | 0                        | 30   | 0    | 0    | 30         | 5                             | 0    | 7    | 0    | 12         | 3                        | 40   | 1    | 1    | 45         | 88         |
| 12:45 PM                                                   | 0                            | 0    | 0    | 0    | 0          | 1                        | 33   | 2    | 0    | 36         | 4                             | 0    | 2    | 0    | 6          | 2                        | 36   | 0    | 0    | 38         | 80         |
| Total Volume                                               | 4                            | 1    | 0    | 1    | 6          | 3                        | 113  | 6    | 1    | 123        | 14                            | 1    | 15   | 0    | 30         | 10                       | 149  | 1    | 1    | 161        | 320        |
| % App. Total                                               | 66.7                         | 16.7 | 0    | 16.7 |            | 2.4                      | 91.9 | 4.9  | 0.8  |            | 46.7                          | 3.3  | 50   | 0    |            | 6.2                      | 92.5 | 0.6  | 0.6  |            |            |
| PHF                                                        | .333                         | .250 | .000 | .250 | .500       | .375                     | .856 | .375 | .250 | .854       | .700                          | .250 | .536 | .000 | .625       | .833                     | .931 | .250 | .250 | .894       | .909       |





File Name : 2 - Lakeshore @ South Bay - 5-11-22

Site Code : 00000002

Start Date : 5/11/2022

Page No : 1

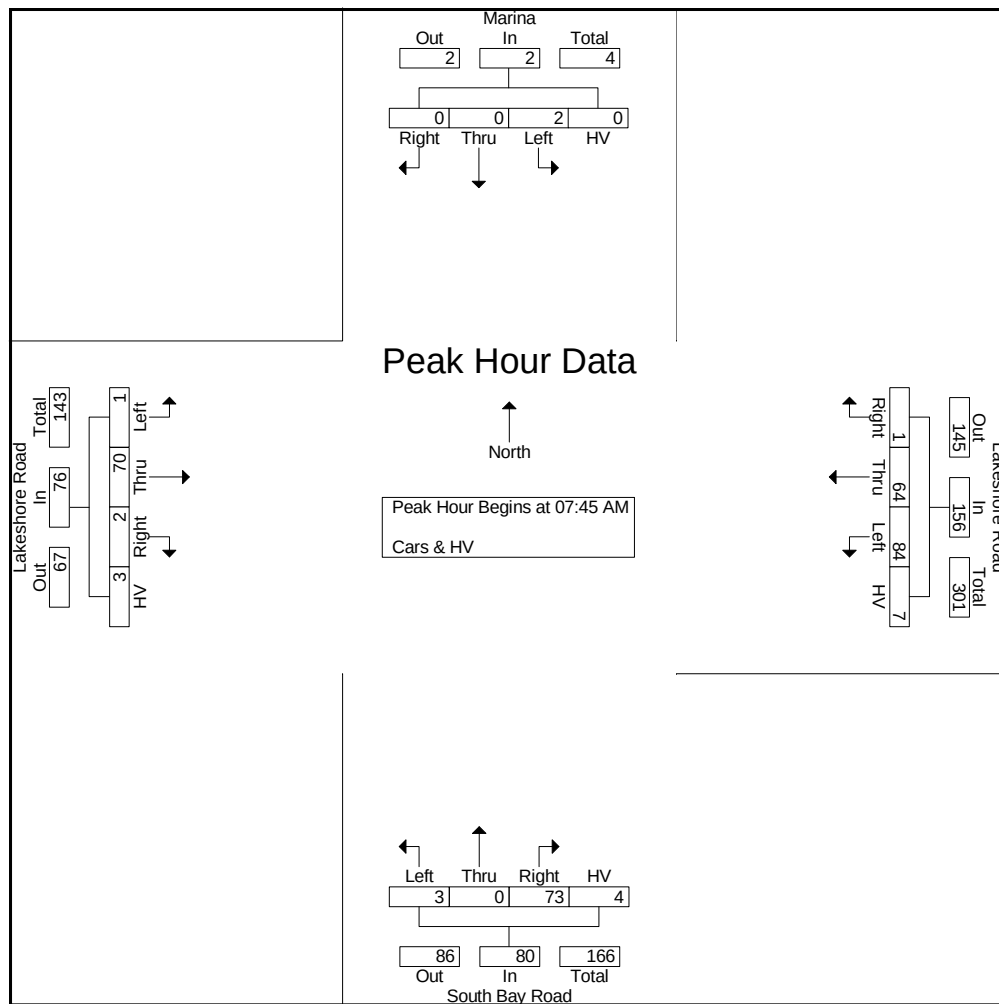
Groups Printed- Cars & HV

|             | Marina<br>Southbound |      |      |     | Lakeshore Road<br>Westbound |      |      |     | South Bay Road<br>Northbound |      |      |     | Lakeshore Road<br>Eastbound |      |      |     | Int. Total |
|-------------|----------------------|------|------|-----|-----------------------------|------|------|-----|------------------------------|------|------|-----|-----------------------------|------|------|-----|------------|
| Start Time  | Right                | Thru | Left | HV  | Right                       | Thru | Left | HV  | Right                        | Thru | Left | HV  | Right                       | Thru | Left | HV  |            |
| 07:00 AM    | 0                    | 0    | 0    | 0   | 0                           | 16   | 33   | 1   | 0                            | 0    | 0    | 0   | 0                           | 8    | 0    | 0   | 58         |
| 07:15 AM    | 0                    | 0    | 0    | 0   | 0                           | 16   | 29   | 0   | 8                            | 0    | 2    | 0   | 0                           | 10   | 0    | 1   | 66         |
| 07:30 AM    | 0                    | 0    | 0    | 0   | 0                           | 18   | 20   | 0   | 13                           | 0    | 0    | 0   | 3                           | 8    | 0    | 1   | 63         |
| 07:45 AM    | 0                    | 0    | 2    | 0   | 1                           | 17   | 19   | 0   | 17                           | 0    | 1    | 2   | 0                           | 21   | 1    | 2   | 83         |
| Total       | 0                    | 0    | 2    | 0   | 1                           | 67   | 101  | 1   | 38                           | 0    | 3    | 2   | 3                           | 47   | 1    | 4   | 270        |
| 08:00 AM    | 0                    | 0    | 0    | 0   | 0                           | 15   | 24   | 5   | 13                           | 0    | 1    | 1   | 0                           | 9    | 0    | 0   | 68         |
| 08:15 AM    | 0                    | 0    | 0    | 0   | 0                           | 16   | 19   | 2   | 21                           | 0    | 1    | 1   | 0                           | 23   | 0    | 0   | 83         |
| 08:30 AM    | 0                    | 0    | 0    | 0   | 0                           | 16   | 22   | 0   | 22                           | 0    | 0    | 0   | 2                           | 17   | 0    | 1   | 80         |
| 08:45 AM    | 1                    | 0    | 0    | 0   | 1                           | 7    | 18   | 1   | 14                           | 1    | 2    | 0   | 0                           | 26   | 0    | 1   | 72         |
| Total       | 1                    | 0    | 0    | 0   | 1                           | 54   | 83   | 8   | 70                           | 1    | 4    | 2   | 2                           | 75   | 0    | 2   | 303        |
| 04:00 PM    | 0                    | 1    | 0    | 0   | 0                           | 31   | 28   | 1   | 29                           | 1    | 5    | 0   | 1                           | 32   | 0    | 0   | 129        |
| 04:15 PM    | 0                    | 0    | 0    | 0   | 0                           | 28   | 21   | 1   | 25                           | 0    | 2    | 1   | 4                           | 21   | 0    | 1   | 104        |
| 04:30 PM    | 0                    | 0    | 1    | 0   | 0                           | 24   | 12   | 1   | 23                           | 0    | 1    | 0   | 0                           | 36   | 0    | 1   | 99         |
| 04:45 PM    | 1                    | 0    | 0    | 0   | 0                           | 14   | 8    | 0   | 34                           | 0    | 4    | 0   | 5                           | 44   | 0    | 1   | 111        |
| Total       | 1                    | 1    | 1    | 0   | 0                           | 97   | 69   | 3   | 111                          | 1    | 12   | 1   | 10                          | 133  | 0    | 3   | 443        |
| 05:00 PM    | 0                    | 0    | 0    | 0   | 0                           | 14   | 17   | 0   | 32                           | 0    | 3    | 1   | 0                           | 21   | 0    | 3   | 91         |
| 05:15 PM    | 0                    | 1    | 1    | 0   | 0                           | 25   | 19   | 1   | 24                           | 1    | 3    | 0   | 2                           | 32   | 0    | 0   | 109        |
| 05:30 PM    | 0                    | 0    | 0    | 0   | 0                           | 21   | 19   | 0   | 25                           | 1    | 0    | 2   | 1                           | 22   | 0    | 1   | 92         |
| 05:45 PM    | 0                    | 1    | 2    | 1   | 2                           | 26   | 16   | 2   | 24                           | 1    | 1    | 0   | 3                           | 31   | 0    | 1   | 111        |
| Total       | 0                    | 2    | 3    | 1   | 2                           | 86   | 71   | 3   | 105                          | 3    | 7    | 3   | 6                           | 106  | 0    | 5   | 403        |
| Grand Total | 2                    | 3    | 6    | 1   | 4                           | 304  | 324  | 15  | 324                          | 5    | 26   | 8   | 21                          | 361  | 1    | 14  | 1419       |
| Apprch %    | 16.7                 | 25   | 50   | 8.3 | 0.6                         | 47   | 50.1 | 2.3 | 89.3                         | 1.4  | 7.2  | 2.2 | 5.3                         | 90.9 | 0.3  | 3.5 |            |
| Total %     | 0.1                  | 0.2  | 0.4  | 0.1 | 0.3                         | 21.4 | 22.8 | 1.1 | 22.8                         | 0.4  | 1.8  | 0.6 | 1.5                         | 25.4 | 0.1  | 1   |            |



File Name : 2 - Lakeshore @ South Bay - 5-11-22  
 Site Code : 00000002  
 Start Date : 5/11/2022  
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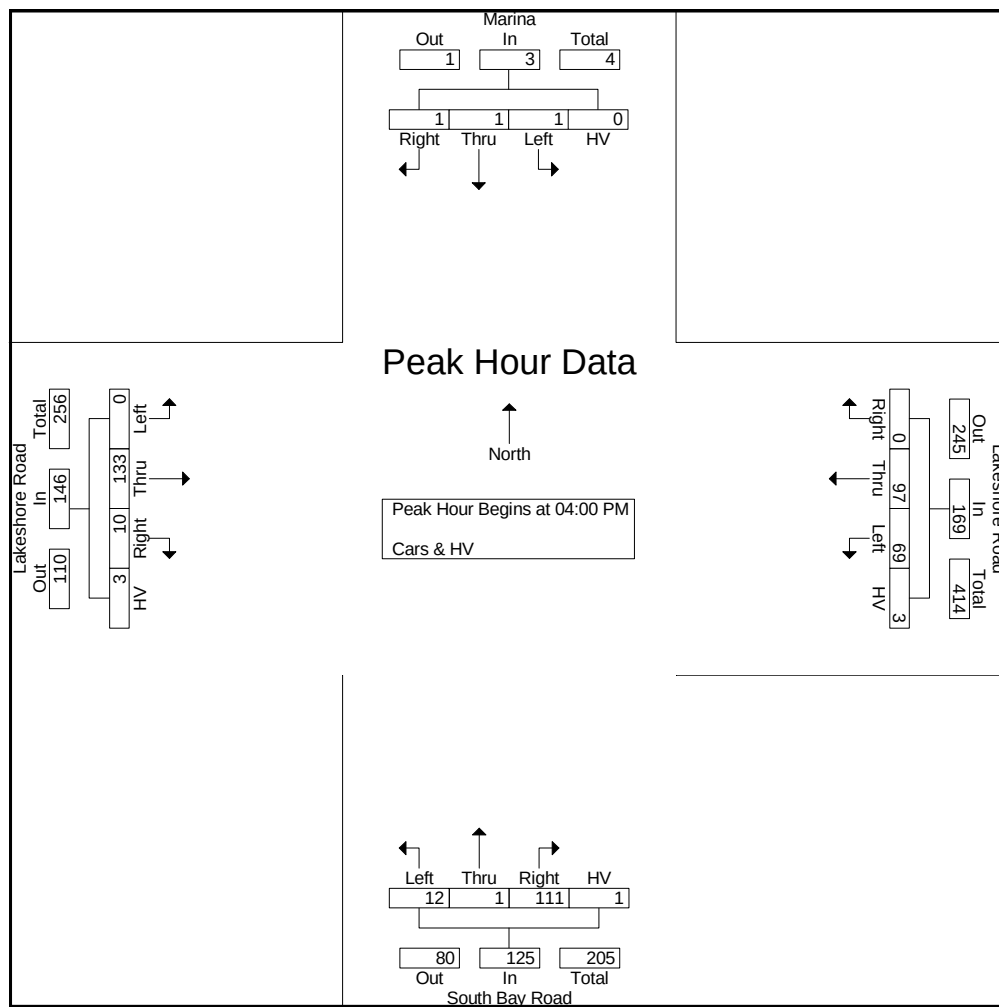
|                                                            | Marina Southbound |      |      |      |            | Lakeshore Road Westbound |      |      |      |            | South Bay Road Northbound |      |      |      |            | Lakeshore Road Eastbound |      |      |      |            |            |
|------------------------------------------------------------|-------------------|------|------|------|------------|--------------------------|------|------|------|------------|---------------------------|------|------|------|------------|--------------------------|------|------|------|------------|------------|
| Start Time                                                 | Right             | Thru | Left | HV   | App. Total | Right                    | Thru | Left | HV   | App. Total | Right                     | Thru | Left | HV   | App. Total | Right                    | Thru | Left | HV   | App. Total | Int. Total |
| Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1 |                   |      |      |      |            |                          |      |      |      |            |                           |      |      |      |            |                          |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 07:45 AM       |                   |      |      |      |            |                          |      |      |      |            |                           |      |      |      |            |                          |      |      |      |            |            |
| 07:45 AM                                                   | 0                 | 0    | 2    | 0    | 2          | 1                        | 17   | 19   | 0    | 37         | 17                        | 0    | 1    | 2    | 20         | 0                        | 21   | 1    | 2    | 24         | 83         |
| 08:00 AM                                                   | 0                 | 0    | 0    | 0    | 0          | 0                        | 15   | 24   | 5    | 44         | 13                        | 0    | 1    | 1    | 15         | 0                        | 9    | 0    | 0    | 9          | 68         |
| 08:15 AM                                                   | 0                 | 0    | 0    | 0    | 0          | 0                        | 16   | 19   | 2    | 37         | 21                        | 0    | 1    | 1    | 23         | 0                        | 23   | 0    | 0    | 23         | 83         |
| 08:30 AM                                                   | 0                 | 0    | 0    | 0    | 0          | 0                        | 16   | 22   | 0    | 38         | 22                        | 0    | 0    | 0    | 22         | 2                        | 17   | 0    | 1    | 20         | 80         |
| Total Volume                                               | 0                 | 0    | 2    | 0    | 2          | 1                        | 64   | 84   | 7    | 156        | 73                        | 0    | 3    | 4    | 80         | 2                        | 70   | 1    | 3    | 76         | 314        |
| % App. Total                                               | 0                 | 0    | 100  | 0    |            | 0.6                      | 41   | 53.8 | 4.5  |            | 91.2                      | 0    | 3.8  | 5    |            | 2.6                      | 92.1 | 1.3  | 3.9  |            |            |
| PHF                                                        | .000              | .000 | .250 | .000 | .250       | .250                     | .941 | .875 | .350 | .886       | .830                      | .000 | .750 | .500 | .870       | .250                     | .761 | .250 | .375 | .792       | .946       |





File Name : 2 - Lakeshore @ South Bay - 5-11-22  
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|                                                            | Marina<br>Southbound |      |      |      |            | Lakeshore Road<br>Westbound |      |      |      |            | South Bay Road<br>Northbound |      |      |      |            | Lakeshore Road<br>Eastbound |      |      |      |            |            |
|------------------------------------------------------------|----------------------|------|------|------|------------|-----------------------------|------|------|------|------------|------------------------------|------|------|------|------------|-----------------------------|------|------|------|------------|------------|
| Start<br>Time                                              | Right                | Thru | Left | HV   | App. Total | Right                       | Thru | Left | HV   | App. Total | Right                        | Thru | Left | HV   | App. Total | Right                       | Thru | Left | HV   | App. Total | Int. Total |
| Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1 |                      |      |      |      |            |                             |      |      |      |            |                              |      |      |      |            |                             |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 04:00 PM       |                      |      |      |      |            |                             |      |      |      |            |                              |      |      |      |            |                             |      |      |      |            |            |
| 04:00 PM                                                   | 0                    | 1    | 0    | 0    | 1          | 0                           | 31   | 28   | 1    | 60         | 29                           | 1    | 5    | 0    | 35         | 1                           | 32   | 0    | 0    | 33         | 129        |
| 04:15 PM                                                   | 0                    | 0    | 0    | 0    | 0          | 0                           | 28   | 21   | 1    | 50         | 25                           | 0    | 2    | 1    | 28         | 4                           | 21   | 0    | 1    | 26         | 104        |
| 04:30 PM                                                   | 0                    | 0    | 1    | 0    | 1          | 0                           | 24   | 12   | 1    | 37         | 23                           | 0    | 1    | 0    | 24         | 0                           | 36   | 0    | 1    | 37         | 99         |
| 04:45 PM                                                   | 1                    | 0    | 0    | 0    | 1          | 0                           | 14   | 8    | 0    | 22         | 34                           | 0    | 4    | 0    | 38         | 5                           | 44   | 0    | 1    | 50         | 111        |
| Total Volume                                               | 1                    | 1    | 1    | 0    | 3          | 0                           | 97   | 69   | 3    | 169        | 111                          | 1    | 12   | 1    | 125        | 10                          | 133  | 0    | 3    | 146        | 443        |
| % App. Total                                               | 33.3                 | 33.3 | 33.3 | 0    |            | 0                           | 57.4 | 40.8 | 1.8  |            | 88.8                         | 0.8  | 9.6  | 0.8  |            | 6.8                         | 91.1 | 0    | 2.1  |            |            |
| PHF                                                        | .250                 | .250 | .250 | .000 | .750       | .000                        | .782 | .616 | .750 | .704       | .816                         | .250 | .600 | .250 | .822       | .500                        | .756 | .000 | .750 | .730       | .859       |





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### Groups Printed- Peds

|            | Marina Southbound |      |      |      | Lakeshore Road Westbound |      |      |      | South Bay Road Northbound |      |      |      | Lakeshore Road Eastbound |      |      |      |            |
|------------|-------------------|------|------|------|--------------------------|------|------|------|---------------------------|------|------|------|--------------------------|------|------|------|------------|
| Start Time | Right             | Thru | Left | Peds | Right                    | Thru | Left | Peds | Right                     | Thru | Left | Peds | Right                    | Thru | Left | Peds | Int. Total |

[illegible]



File Name : 2 - Lakeshore @ South Bay - 5-12-22

Site Code : 00000002

Start Date : 5/12/2022

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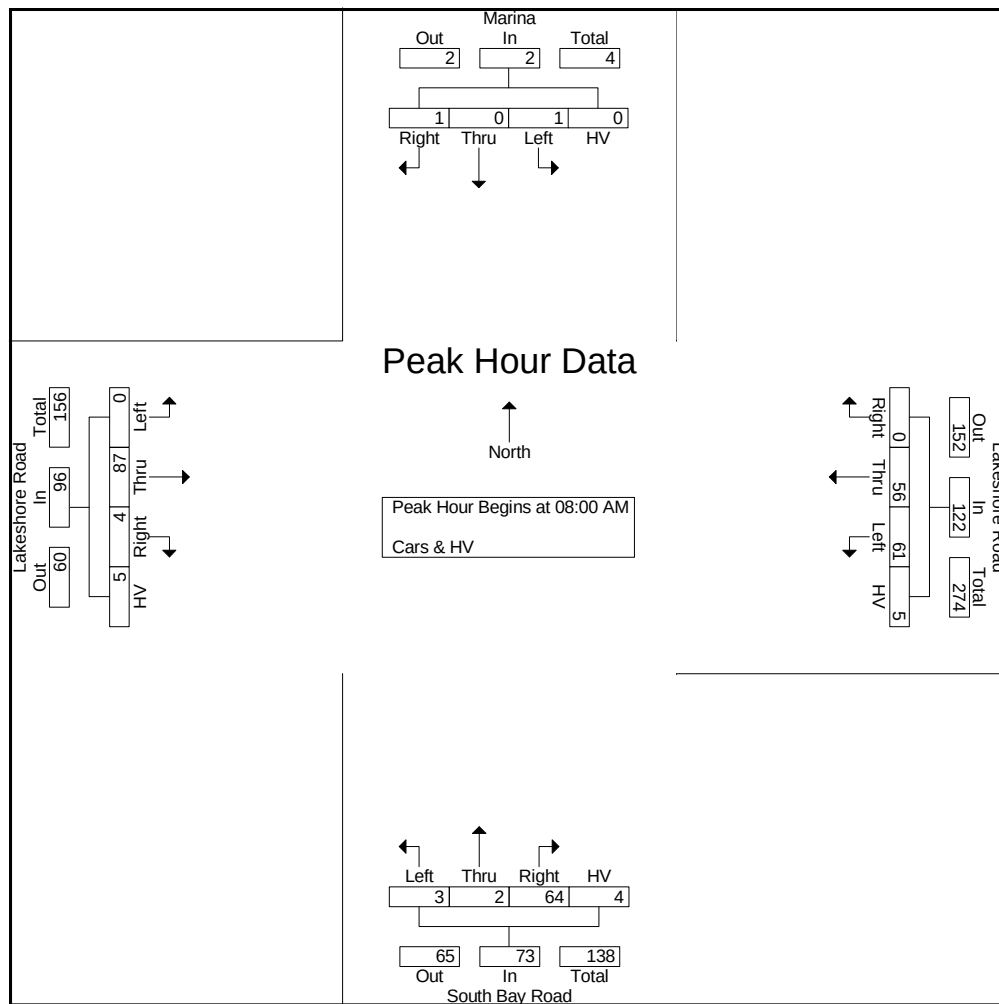
Groups Printed- Cars & HV

|             | Marina<br>Southbound |      |      |     | Lakeshore Road<br>Westbound |      |      |     | South Bay Road<br>Northbound |      |      |     | Lakeshore Road<br>Eastbound |      |      |     | Int. Total |
|-------------|----------------------|------|------|-----|-----------------------------|------|------|-----|------------------------------|------|------|-----|-----------------------------|------|------|-----|------------|
| Start Time  | Right                | Thru | Left | HV  | Right                       | Thru | Left | HV  | Right                        | Thru | Left | HV  | Right                       | Thru | Left | HV  |            |
| 07:00 AM    | 0                    | 0    | 0    | 0   | 0                           | 19   | 31   | 1   | 3                            | 0    | 0    | 0   | 0                           | 12   | 0    | 0   | 66         |
| 07:15 AM    | 0                    | 0    | 0    | 0   | 0                           | 19   | 24   | 0   | 8                            | 0    | 0    | 0   | 1                           | 7    | 0    | 0   | 59         |
| 07:30 AM    | 0                    | 0    | 0    | 0   | 0                           | 15   | 26   | 1   | 7                            | 0    | 2    | 1   | 4                           | 8    | 0    | 0   | 64         |
| 07:45 AM    | 0                    | 0    | 0    | 0   | 0                           | 18   | 20   | 0   | 9                            | 0    | 2    | 0   | 1                           | 15   | 0    | 2   | 67         |
| Total       | 0                    | 0    | 0    | 0   | 0                           | 71   | 101  | 2   | 27                           | 0    | 4    | 1   | 6                           | 42   | 0    | 2   | 256        |
| 08:00 AM    | 0                    | 0    | 0    | 0   | 0                           | 17   | 17   | 1   | 17                           | 0    | 0    | 1   | 1                           | 13   | 0    | 2   | 69         |
| 08:15 AM    | 0                    | 0    | 0    | 0   | 0                           | 17   | 20   | 1   | 16                           | 0    | 2    | 1   | 0                           | 18   | 0    | 1   | 76         |
| 08:30 AM    | 0                    | 0    | 1    | 0   | 0                           | 9    | 16   | 1   | 15                           | 1    | 1    | 0   | 2                           | 27   | 0    | 1   | 74         |
| 08:45 AM    | 1                    | 0    | 0    | 0   | 0                           | 13   | 8    | 2   | 16                           | 1    | 0    | 2   | 1                           | 29   | 0    | 1   | 74         |
| Total       | 1                    | 0    | 1    | 0   | 0                           | 56   | 61   | 5   | 64                           | 2    | 3    | 4   | 4                           | 87   | 0    | 5   | 293        |
| 04:00 PM    | 1                    | 0    | 0    | 0   | 0                           | 28   | 33   | 1   | 29                           | 0    | 1    | 0   | 4                           | 29   | 0    | 1   | 127        |
| 04:15 PM    | 1                    | 0    | 0    | 0   | 0                           | 22   | 26   | 2   | 24                           | 1    | 0    | 0   | 2                           | 27   | 0    | 2   | 107        |
| 04:30 PM    | 0                    | 1    | 1    | 1   | 0                           | 33   | 11   | 1   | 32                           | 1    | 5    | 1   | 0                           | 37   | 0    | 3   | 127        |
| 04:45 PM    | 0                    | 0    | 0    | 0   | 0                           | 29   | 19   | 1   | 31                           | 0    | 5    | 1   | 1                           | 39   | 0    | 1   | 127        |
| Total       | 2                    | 1    | 1    | 1   | 0                           | 112  | 89   | 5   | 116                          | 2    | 11   | 2   | 7                           | 132  | 0    | 7   | 488        |
| 05:00 PM    | 0                    | 0    | 0    | 0   | 0                           | 21   | 23   | 4   | 26                           | 2    | 2    | 3   | 1                           | 22   | 1    | 1   | 106        |
| 05:15 PM    | 0                    | 2    | 0    | 0   | 0                           | 27   | 29   | 0   | 25                           | 1    | 3    | 0   | 3                           | 30   | 0    | 0   | 120        |
| 05:30 PM    | 0                    | 0    | 0    | 0   | 2                           | 29   | 20   | 0   | 24                           | 0    | 4    | 1   | 1                           | 32   | 0    | 3   | 116        |
| 05:45 PM    | 1                    | 0    | 0    | 0   | 0                           | 20   | 17   | 0   | 22                           | 0    | 1    | 0   | 2                           | 25   | 0    | 1   | 89         |
| Total       | 1                    | 2    | 0    | 0   | 2                           | 97   | 89   | 4   | 97                           | 3    | 10   | 4   | 7                           | 109  | 1    | 5   | 431        |
| Grand Total | 4                    | 3    | 2    | 1   | 2                           | 336  | 340  | 16  | 304                          | 7    | 28   | 11  | 24                          | 370  | 1    | 19  | 1468       |
| Apprch %    | 40                   | 30   | 20   | 10  | 0.3                         | 48.4 | 49   | 2.3 | 86.9                         | 2    | 8    | 3.1 | 5.8                         | 89.4 | 0.2  | 4.6 |            |
| Total %     | 0.3                  | 0.2  | 0.1  | 0.1 | 0.1                         | 22.9 | 23.2 | 1.1 | 20.7                         | 0.5  | 1.9  | 0.7 | 1.6                         | 25.2 | 0.1  | 1.3 |            |



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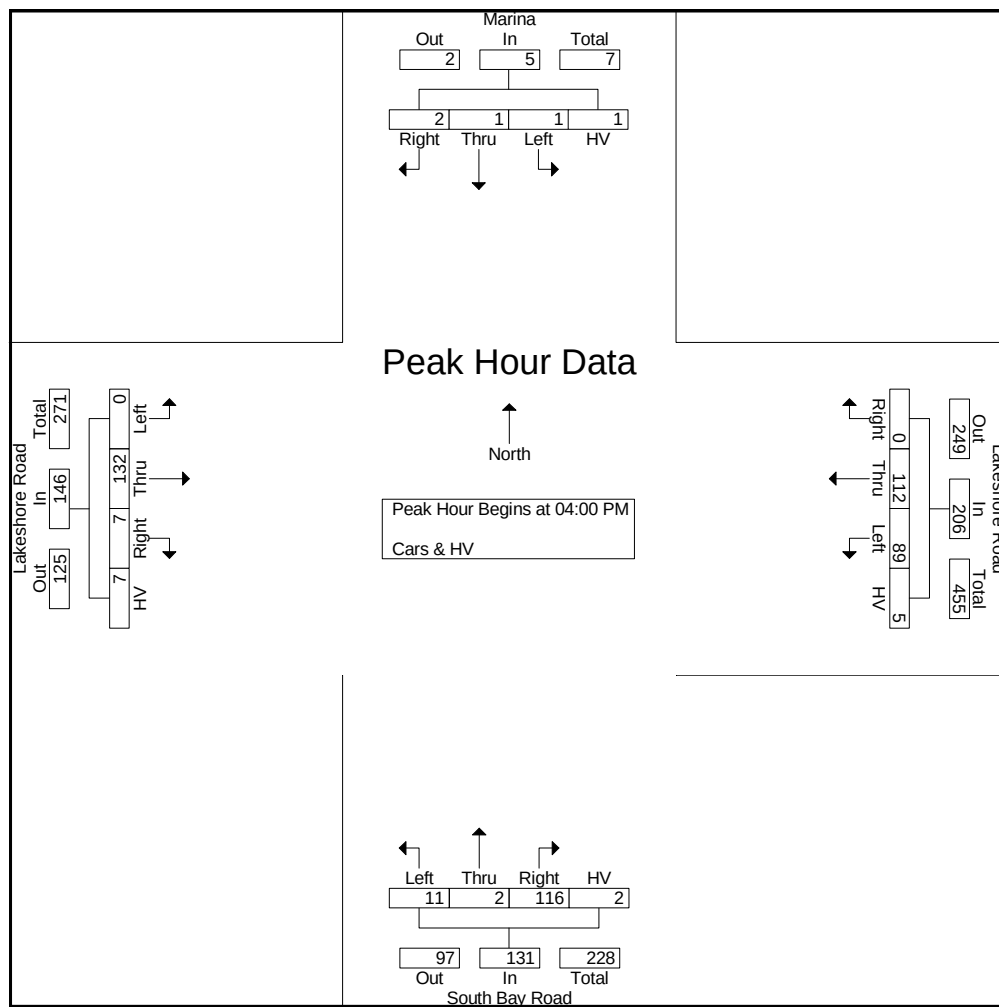
|                                                            | Marina Southbound |      |      |      |            | Lakeshore Road Westbound |      |      |      |            | South Bay Road Northbound |      |      |      |            | Lakeshore Road Eastbound |      |      |      |            |            |
|------------------------------------------------------------|-------------------|------|------|------|------------|--------------------------|------|------|------|------------|---------------------------|------|------|------|------------|--------------------------|------|------|------|------------|------------|
| Start Time                                                 | Right             | Thru | Left | HV   | App. Total | Right                    | Thru | Left | HV   | App. Total | Right                     | Thru | Left | HV   | App. Total | Right                    | Thru | Left | HV   | App. Total | Int. Total |
| Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1 |                   |      |      |      |            |                          |      |      |      |            |                           |      |      |      |            |                          |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 08:00 AM       |                   |      |      |      |            |                          |      |      |      |            |                           |      |      |      |            |                          |      |      |      |            |            |
| 08:00 AM                                                   | 0                 | 0    | 0    | 0    | 0          | 0                        | 17   | 17   | 1    | 35         | 17                        | 0    | 0    | 1    | 18         | 1                        | 13   | 0    | 2    | 16         | 69         |
| 08:15 AM                                                   | 0                 | 0    | 0    | 0    | 0          | 0                        | 17   | 20   | 1    | 38         | 16                        | 0    | 2    | 1    | 19         | 0                        | 18   | 0    | 1    | 19         | 76         |
| 08:30 AM                                                   | 0                 | 0    | 1    | 0    | 1          | 0                        | 9    | 16   | 1    | 26         | 15                        | 1    | 1    | 0    | 17         | 2                        | 27   | 0    | 1    | 30         | 74         |
| 08:45 AM                                                   | 1                 | 0    | 0    | 0    | 1          | 0                        | 13   | 8    | 2    | 23         | 16                        | 1    | 0    | 2    | 19         | 1                        | 29   | 0    | 1    | 31         | 74         |
| Total Volume                                               | 1                 | 0    | 1    | 0    | 2          | 0                        | 56   | 61   | 5    | 122        | 64                        | 2    | 3    | 4    | 73         | 4                        | 87   | 0    | 5    | 96         | 293        |
| % App. Total                                               | 50                | 0    | 50   | 0    |            | 0                        | 45.9 | 50   | 4.1  |            | 87.7                      | 2.7  | 4.1  | 5.5  |            | 4.2                      | 90.6 | 0    | 5.2  |            |            |
| PHF                                                        | .250              | .000 | .250 | .000 | .500       | .000                     | .824 | .763 | .625 | .803       | .941                      | .500 | .375 | .500 | .961       | .500                     | .750 | .000 | .625 | .774       | .964       |





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|                                                            | Marina<br>Southbound |      |      |      |            | Lakeshore Road<br>Westbound |      |      |      |            | South Bay Road<br>Northbound |      |      |      |            | Lakeshore Road<br>Eastbound |      |      |      |            |            |
|------------------------------------------------------------|----------------------|------|------|------|------------|-----------------------------|------|------|------|------------|------------------------------|------|------|------|------------|-----------------------------|------|------|------|------------|------------|
| Start Time                                                 | Right                | Thru | Left | HV   | App. Total | Right                       | Thru | Left | HV   | App. Total | Right                        | Thru | Left | HV   | App. Total | Right                       | Thru | Left | HV   | App. Total | Int. Total |
| Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1 |                      |      |      |      |            |                             |      |      |      |            |                              |      |      |      |            |                             |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 04:00 PM       |                      |      |      |      |            |                             |      |      |      |            |                              |      |      |      |            |                             |      |      |      |            |            |
| 04:00 PM                                                   | 1                    | 0    | 0    | 0    | 1          | 0                           | 28   | 33   | 1    | 62         | 29                           | 0    | 1    | 0    | 30         | 4                           | 29   | 0    | 1    | 34         | 127        |
| 04:15 PM                                                   | 1                    | 0    | 0    | 0    | 1          | 0                           | 22   | 26   | 2    | 50         | 24                           | 1    | 0    | 0    | 25         | 2                           | 27   | 0    | 2    | 31         | 107        |
| 04:30 PM                                                   | 0                    | 1    | 1    | 1    | 3          | 0                           | 33   | 11   | 1    | 45         | 32                           | 1    | 5    | 1    | 39         | 0                           | 37   | 0    | 3    | 40         | 127        |
| 04:45 PM                                                   | 0                    | 0    | 0    | 0    | 0          | 0                           | 29   | 19   | 1    | 49         | 31                           | 0    | 5    | 1    | 37         | 1                           | 39   | 0    | 1    | 41         | 127        |
| Total Volume                                               | 2                    | 1    | 1    | 1    | 5          | 0                           | 112  | 89   | 5    | 206        | 116                          | 2    | 11   | 2    | 131        | 7                           | 132  | 0    | 7    | 146        | 488        |
| % App. Total                                               | 40                   | 20   | 20   | 20   |            | 0                           | 54.4 | 43.2 | 2.4  |            | 88.5                         | 1.5  | 8.4  | 1.5  |            | 4.8                         | 90.4 | 0    | 4.8  |            |            |
| PHF                                                        | .500                 | .250 | .250 | .250 | .417       | .000                        | .848 | .674 | .625 | .831       | .906                         | .500 | .550 | .500 | .840       | .438                        | .846 | .000 | .583 | .890       | .961       |





File Name : 2 - Lakeshore @ South Bay - 5-12-22

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Groups Printed- Peds

|             | Marina<br>Southbound |      |      |      | Lakeshore Road<br>Westbound |      |      |      | South Bay Road<br>Northbound |      |      |      | Lakeshore Road<br>Eastbound |      |      |      | Int. Total |
|-------------|----------------------|------|------|------|-----------------------------|------|------|------|------------------------------|------|------|------|-----------------------------|------|------|------|------------|
| Start Time  | Right                | Thru | Left | Peds | Right                       | Thru | Left | Peds | Right                        | Thru | Left | Peds | Right                       | Thru | Left | Peds |            |
| 08:00 AM    | 0                    | 0    | 0    | 0    | 0                           | 0    | 0    | 0    | 0                            | 0    | 0    | 1    | 0                           | 0    | 0    | 0    | 1          |
| 08:30 AM    | 0                    | 0    | 0    | 2    | 0                           | 0    | 0    | 0    | 0                            | 0    | 0    | 0    | 0                           | 0    | 0    | 0    | 2          |
| Total       | 0                    | 0    | 0    | 2    | 0                           | 0    | 0    | 0    | 0                            | 0    | 0    | 1    | 0                           | 0    | 0    | 0    | 3          |
| 05:00 PM    | 0                    | 0    | 0    | 0    | 0                           | 0    | 0    | 2    | 0                            | 0    | 0    | 1    | 0                           | 0    | 0    | 0    | 3          |
| Total       | 0                    | 0    | 0    | 0    | 0                           | 0    | 0    | 2    | 0                            | 0    | 0    | 1    | 0                           | 0    | 0    | 0    | 3          |
| Grand Total | 0                    | 0    | 0    | 2    | 0                           | 0    | 0    | 2    | 0                            | 0    | 0    | 2    | 0                           | 0    | 0    | 0    | 6          |
| Apprch %    | 0                    | 0    | 0    | 100  | 0                           | 0    | 0    | 100  | 0                            | 0    | 0    | 100  | 0                           | 0    | 0    | 0    |            |
| Total %     | 0                    | 0    | 0    | 33.3 | 0                           | 0    | 0    | 33.3 | 0                            | 0    | 0    | 33.3 | 0                           | 0    | 0    | 0    |            |



File Name : 2 - Lakeshore @ South Bay - 5-14-22

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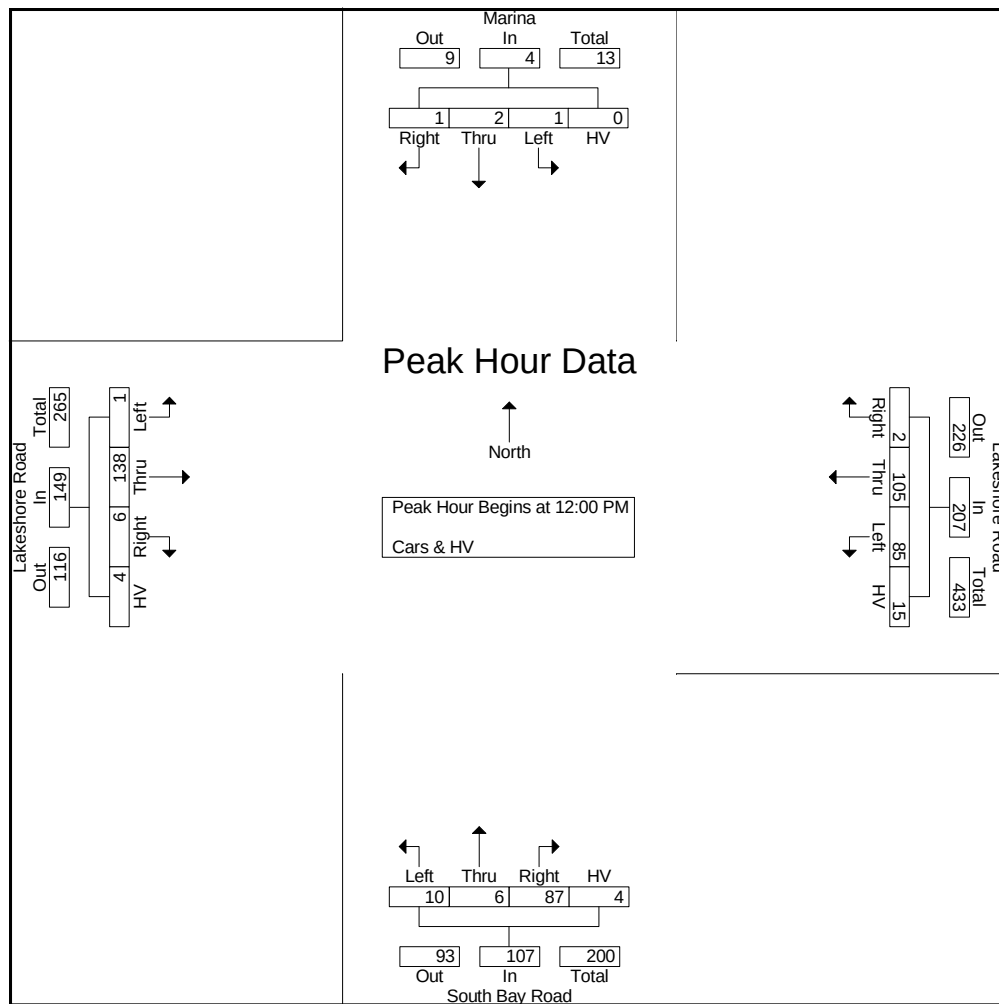
Groups Printed- Cars & HV

|             | Marina<br>Southbound |      |      |    | Lakeshore Road<br>Westbound |      |      |     | South Bay Road<br>Northbound |      |      |     | Lakeshore Road<br>Eastbound |      |      |     | Int. Total |
|-------------|----------------------|------|------|----|-----------------------------|------|------|-----|------------------------------|------|------|-----|-----------------------------|------|------|-----|------------|
| Start Time  | Right                | Thru | Left | HV | Right                       | Thru | Left | HV  | Right                        | Thru | Left | HV  | Right                       | Thru | Left | HV  |            |
| 11:00 AM    | 0                    | 0    | 0    | 0  | 0                           | 25   | 22   | 4   | 16                           | 2    | 4    | 0   | 1                           | 23   | 0    | 1   | 98         |
| 11:15 AM    | 1                    | 0    | 0    | 0  | 0                           | 14   | 12   | 0   | 23                           | 1    | 1    | 0   | 3                           | 24   | 0    | 0   | 79         |
| 11:30 AM    | 1                    | 1    | 0    | 0  | 0                           | 24   | 15   | 1   | 12                           | 1    | 2    | 1   | 2                           | 30   | 1    | 2   | 93         |
| 11:45 AM    | 2                    | 0    | 2    | 0  | 1                           | 13   | 18   | 2   | 18                           | 2    | 1    | 1   | 3                           | 26   | 2    | 5   | 96         |
| Total       | 4                    | 1    | 2    | 0  | 1                           | 76   | 67   | 7   | 69                           | 6    | 8    | 2   | 9                           | 103  | 3    | 8   | 366        |
| 12:00 PM    | 1                    | 0    | 1    | 0  | 0                           | 31   | 22   | 5   | 22                           | 3    | 2    | 0   | 3                           | 35   | 0    | 2   | 127        |
| 12:15 PM    | 0                    | 1    | 0    | 0  | 0                           | 24   | 24   | 3   | 18                           | 1    | 6    | 4   | 0                           | 36   | 0    | 0   | 117        |
| 12:30 PM    | 0                    | 0    | 0    | 0  | 0                           | 27   | 19   | 4   | 24                           | 1    | 1    | 0   | 2                           | 31   | 0    | 1   | 110        |
| 12:45 PM    | 0                    | 1    | 0    | 0  | 2                           | 23   | 20   | 3   | 23                           | 1    | 1    | 0   | 1                           | 36   | 1    | 1   | 113        |
| Total       | 1                    | 2    | 1    | 0  | 2                           | 105  | 85   | 15  | 87                           | 6    | 10   | 4   | 6                           | 138  | 1    | 4   | 467        |
| Grand Total | 5                    | 3    | 3    | 0  | 3                           | 181  | 152  | 22  | 156                          | 12   | 18   | 6   | 15                          | 241  | 4    | 12  | 833        |
| Apprch %    | 45.5                 | 27.3 | 27.3 | 0  | 0.8                         | 50.6 | 42.5 | 6.1 | 81.2                         | 6.2  | 9.4  | 3.1 | 5.5                         | 88.6 | 1.5  | 4.4 |            |
| Total %     | 0.6                  | 0.4  | 0.4  | 0  | 0.4                         | 21.7 | 18.2 | 2.6 | 18.7                         | 1.4  | 2.2  | 0.7 | 1.8                         | 28.9 | 0.5  | 1.4 |            |



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|                                                            | Marina Southbound |      |      |      |            | Lakeshore Road Westbound |      |      |      |            | South Bay Road Northbound |      |      |      |            | Lakeshore Road Eastbound |      |      |      |            |            |
|------------------------------------------------------------|-------------------|------|------|------|------------|--------------------------|------|------|------|------------|---------------------------|------|------|------|------------|--------------------------|------|------|------|------------|------------|
| Start Time                                                 | Right             | Thru | Left | HV   | App. Total | Right                    | Thru | Left | HV   | App. Total | Right                     | Thru | Left | HV   | App. Total | Right                    | Thru | Left | HV   | App. Total | Int. Total |
| Peak Hour Analysis From 11:00 AM to 12:45 PM - Peak 1 of 1 |                   |      |      |      |            |                          |      |      |      |            |                           |      |      |      |            |                          |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 12:00 PM       |                   |      |      |      |            |                          |      |      |      |            |                           |      |      |      |            |                          |      |      |      |            |            |
| 12:00 PM                                                   | 1                 | 0    | 1    | 0    | 2          | 0                        | 31   | 22   | 5    | 58         | 22                        | 3    | 2    | 0    | 27         | 3                        | 35   | 0    | 2    | 40         | 127        |
| 12:15 PM                                                   | 0                 | 1    | 0    | 0    | 1          | 0                        | 24   | 24   | 3    | 51         | 18                        | 1    | 6    | 4    | 29         | 0                        | 36   | 0    | 0    | 36         | 117        |
| 12:30 PM                                                   | 0                 | 0    | 0    | 0    | 0          | 0                        | 27   | 19   | 4    | 50         | 24                        | 1    | 1    | 0    | 26         | 2                        | 31   | 0    | 1    | 34         | 110        |
| 12:45 PM                                                   | 0                 | 1    | 0    | 0    | 1          | 2                        | 23   | 20   | 3    | 48         | 23                        | 1    | 1    | 0    | 25         | 1                        | 36   | 1    | 1    | 39         | 113        |
| Total Volume                                               | 1                 | 2    | 1    | 0    | 4          | 2                        | 105  | 85   | 15   | 207        | 87                        | 6    | 10   | 4    | 107        | 6                        | 138  | 1    | 4    | 149        | 467        |
| % App. Total                                               | 25                | 50   | 25   | 0    |            | 1                        | 50.7 | 41.1 | 7.2  |            | 81.3                      | 5.6  | 9.3  | 3.7  |            | 4                        | 92.6 | 0.7  | 2.7  |            |            |
| PHF                                                        | .250              | .500 | .250 | .000 | .500       | .250                     | .847 | .885 | .750 | .892       | .906                      | .500 | .417 | .250 | .922       | .500                     | .958 | .250 | .500 | .931       | .919       |









File Name : 3 - Lakeshore @ Mudd Mill - 5-11-22

Site Code : 00000003

Start Date : 5/11/2022

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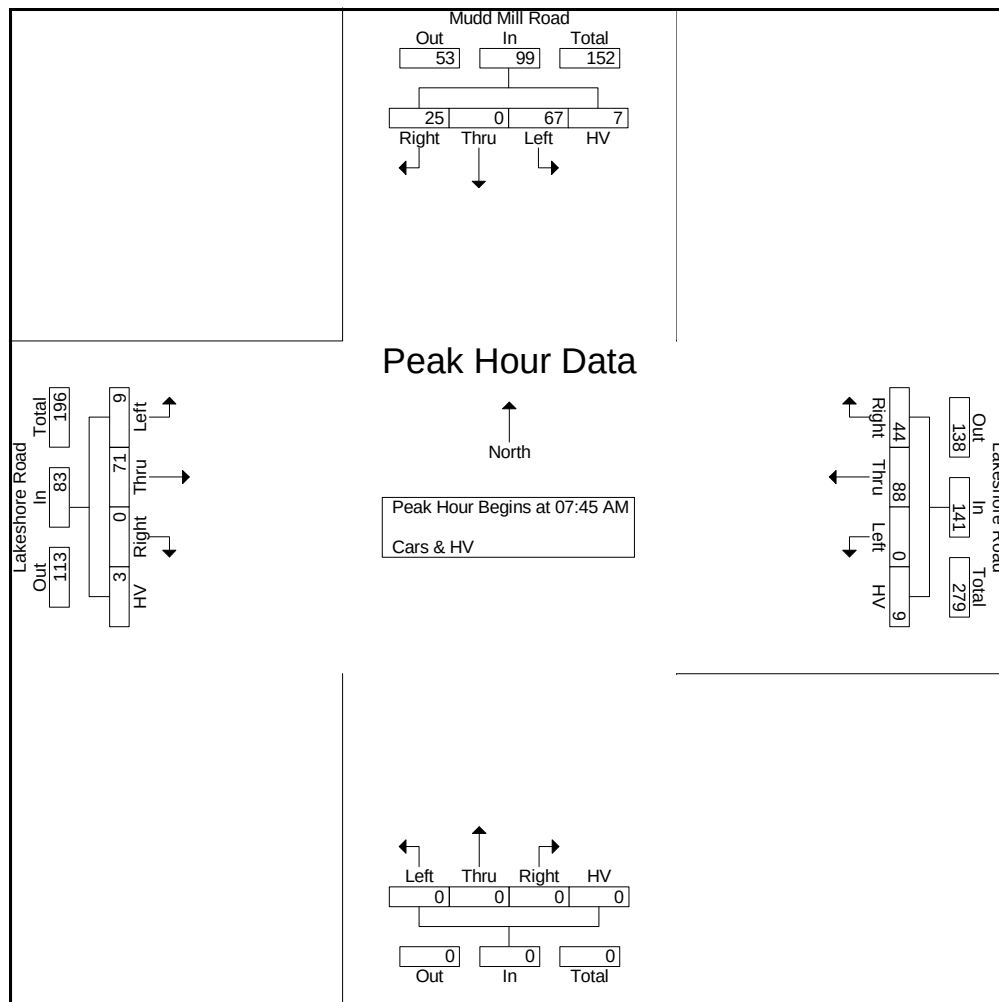
Groups Printed- Cars & HV

|             | Mudd Mill Road<br>Southbound |      |      |     | Lakeshore Road<br>Westbound |      |      |     | Northbound |      |      |    | Lakeshore Road<br>Eastbound |      |      |     | Int. Total |
|-------------|------------------------------|------|------|-----|-----------------------------|------|------|-----|------------|------|------|----|-----------------------------|------|------|-----|------------|
| Start Time  | Right                        | Thru | Left | HV  | Right                       | Thru | Left | HV  | Right      | Thru | Left | HV | Right                       | Thru | Left | HV  |            |
| 07:00 AM    | 5                            | 0    | 17   | 3   | 12                          | 22   | 0    | 3   | 0          | 0    | 0    | 0  | 0                           | 5    | 2    | 0   | 69         |
| 07:15 AM    | 7                            | 0    | 15   | 1   | 12                          | 32   | 0    | 0   | 0          | 0    | 0    | 0  | 0                           | 8    | 1    | 0   | 76         |
| 07:30 AM    | 8                            | 0    | 17   | 2   | 17                          | 21   | 0    | 1   | 0          | 0    | 0    | 0  | 0                           | 7    | 1    | 0   | 74         |
| 07:45 AM    | 7                            | 0    | 18   | 3   | 9                           | 27   | 0    | 1   | 0          | 0    | 0    | 0  | 0                           | 20   | 3    | 0   | 88         |
| Total       | 27                           | 0    | 67   | 9   | 50                          | 102  | 0    | 5   | 0          | 0    | 0    | 0  | 0                           | 40   | 7    | 0   | 307        |
| 08:00 AM    | 8                            | 0    | 19   | 1   | 14                          | 18   | 0    | 3   | 0          | 0    | 0    | 0  | 0                           | 14   | 2    | 0   | 79         |
| 08:15 AM    | 4                            | 0    | 16   | 1   | 11                          | 20   | 0    | 4   | 0          | 0    | 0    | 0  | 0                           | 19   | 1    | 2   | 78         |
| 08:30 AM    | 6                            | 0    | 14   | 2   | 10                          | 23   | 0    | 1   | 0          | 0    | 0    | 0  | 0                           | 18   | 3    | 1   | 78         |
| 08:45 AM    | 5                            | 0    | 7    | 0   | 7                           | 17   | 0    | 3   | 0          | 0    | 0    | 0  | 0                           | 27   | 2    | 1   | 69         |
| Total       | 23                           | 0    | 56   | 4   | 42                          | 78   | 0    | 11  | 0          | 0    | 0    | 0  | 0                           | 78   | 8    | 4   | 304        |
| 04:00 PM    | 5                            | 0    | 25   | 1   | 33                          | 22   | 0    | 2   | 0          | 0    | 0    | 0  | 0                           | 37   | 7    | 0   | 132        |
| 04:15 PM    | 10                           | 0    | 19   | 0   | 23                          | 18   | 0    | 2   | 0          | 0    | 0    | 0  | 0                           | 35   | 18   | 0   | 125        |
| 04:30 PM    | 2                            | 0    | 22   | 0   | 25                          | 22   | 0    | 1   | 0          | 0    | 0    | 0  | 0                           | 36   | 10   | 0   | 118        |
| 04:45 PM    | 7                            | 0    | 19   | 1   | 21                          | 23   | 0    | 2   | 0          | 0    | 0    | 0  | 0                           | 44   | 17   | 1   | 135        |
| Total       | 24                           | 0    | 85   | 2   | 102                         | 85   | 0    | 7   | 0          | 0    | 0    | 0  | 0                           | 152  | 52   | 1   | 510        |
| 05:00 PM    | 7                            | 0    | 23   | 3   | 18                          | 22   | 0    | 2   | 0          | 0    | 0    | 0  | 0                           | 31   | 8    | 0   | 114        |
| 05:15 PM    | 4                            | 0    | 27   | 0   | 28                          | 23   | 0    | 0   | 0          | 0    | 0    | 0  | 0                           | 35   | 7    | 0   | 124        |
| 05:30 PM    | 8                            | 0    | 18   | 0   | 24                          | 22   | 0    | 1   | 0          | 0    | 0    | 0  | 0                           | 29   | 12   | 0   | 114        |
| Grand Total | 93                           | 0    | 276  | 18  | 264                         | 332  | 0    | 26  | 0          | 0    | 0    | 0  | 0                           | 365  | 94   | 5   | 1473       |
| Apprch %    | 24                           | 0    | 71.3 | 4.7 | 42.4                        | 53.4 | 0    | 4.2 | 0          | 0    | 0    | 0  | 0                           | 78.7 | 20.3 | 1.1 |            |
| Total %     | 6.3                          | 0    | 18.7 | 1.2 | 17.9                        | 22.5 | 0    | 1.8 | 0          | 0    | 0    | 0  | 0                           | 24.8 | 6.4  | 0.3 |            |



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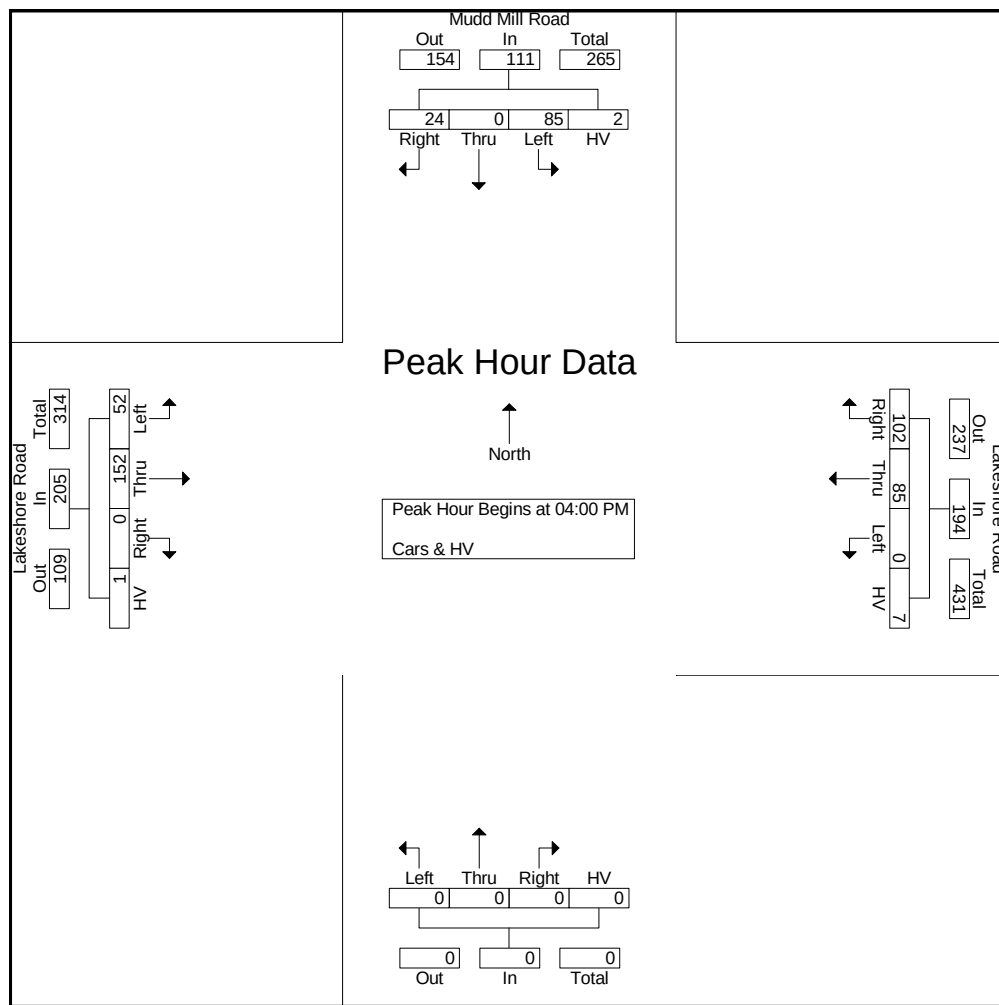
|                                                            | Mudd Mill Road Southbound |      |      |      |            | Lakeshore Road Westbound |      |      |      |            | Northbound |      |      |      |            | Lakeshore Road Eastbound |      |      |      |            |            |
|------------------------------------------------------------|---------------------------|------|------|------|------------|--------------------------|------|------|------|------------|------------|------|------|------|------------|--------------------------|------|------|------|------------|------------|
| Start Time                                                 | Right                     | Thru | Left | HV   | App. Total | Right                    | Thru | Left | HV   | App. Total | Right      | Thru | Left | HV   | App. Total | Right                    | Thru | Left | HV   | App. Total | Int. Total |
| Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1 |                           |      |      |      |            |                          |      |      |      |            |            |      |      |      |            |                          |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 07:45 AM       |                           |      |      |      |            |                          |      |      |      |            |            |      |      |      |            |                          |      |      |      |            |            |
| 07:45 AM                                                   | 7                         | 0    | 18   | 3    | 28         | 9                        | 27   | 0    | 1    | 37         | 0          | 0    | 0    | 0    | 0          | 0                        | 20   | 3    | 0    | 23         | 88         |
| 08:00 AM                                                   | 8                         | 0    | 19   | 1    | 28         | 14                       | 18   | 0    | 3    | 35         | 0          | 0    | 0    | 0    | 0          | 0                        | 14   | 2    | 0    | 16         | 79         |
| 08:15 AM                                                   | 4                         | 0    | 16   | 1    | 21         | 11                       | 20   | 0    | 4    | 35         | 0          | 0    | 0    | 0    | 0          | 0                        | 19   | 1    | 2    | 22         | 78         |
| 08:30 AM                                                   | 6                         | 0    | 14   | 2    | 22         | 10                       | 23   | 0    | 1    | 34         | 0          | 0    | 0    | 0    | 0          | 0                        | 18   | 3    | 1    | 22         | 78         |
| Total Volume                                               | 25                        | 0    | 67   | 7    | 99         | 44                       | 88   | 0    | 9    | 141        | 0          | 0    | 0    | 0    | 0          | 0                        | 71   | 9    | 3    | 83         | 323        |
| % App. Total                                               | 25.3                      | 0    | 67.7 | 7.1  |            | 31.2                     | 62.4 | 0    | 6.4  |            | 0          | 0    | 0    | 0    |            | 0                        | 85.5 | 10.8 | 3.6  |            |            |
| PHF                                                        | .781                      | .000 | .882 | .583 | .884       | .786                     | .815 | .000 | .563 | .953       | .000       | .000 | .000 | .000 | .000       | .000                     | .888 | .750 | .375 | .902       | .918       |





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|                                                            | Mudd Mill Road Southbound |      |      |      |            | Lakeshore Road Westbound |      |      |      |            | Northbound |      |      |      |            | Lakeshore Road Eastbound |      |      |      |            |            |
|------------------------------------------------------------|---------------------------|------|------|------|------------|--------------------------|------|------|------|------------|------------|------|------|------|------------|--------------------------|------|------|------|------------|------------|
| Start Time                                                 | Right                     | Thru | Left | HV   | App. Total | Right                    | Thru | Left | HV   | App. Total | Right      | Thru | Left | HV   | App. Total | Right                    | Thru | Left | HV   | App. Total | Int. Total |
| Peak Hour Analysis From 12:00 PM to 05:30 PM - Peak 1 of 1 |                           |      |      |      |            |                          |      |      |      |            |            |      |      |      |            |                          |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 04:00 PM       |                           |      |      |      |            |                          |      |      |      |            |            |      |      |      |            |                          |      |      |      |            |            |
| 04:00 PM                                                   | 5                         | 0    | 25   | 1    | 31         | 33                       | 22   | 0    | 2    | 57         | 0          | 0    | 0    | 0    | 0          | 0                        | 37   | 7    | 0    | 44         | 132        |
| 04:15 PM                                                   | 10                        | 0    | 19   | 0    | 29         | 23                       | 18   | 0    | 2    | 43         | 0          | 0    | 0    | 0    | 0          | 0                        | 35   | 18   | 0    | 53         | 125        |
| 04:30 PM                                                   | 2                         | 0    | 22   | 0    | 24         | 25                       | 22   | 0    | 1    | 48         | 0          | 0    | 0    | 0    | 0          | 0                        | 36   | 10   | 0    | 46         | 118        |
| 04:45 PM                                                   | 7                         | 0    | 19   | 1    | 27         | 21                       | 23   | 0    | 2    | 46         | 0          | 0    | 0    | 0    | 0          | 0                        | 44   | 17   | 1    | 62         | 135        |
| Total Volume                                               | 24                        | 0    | 85   | 2    | 111        | 102                      | 85   | 0    | 7    | 194        | 0          | 0    | 0    | 0    | 0          | 0                        | 152  | 52   | 1    | 205        | 510        |
| % App. Total                                               | 21.6                      | 0    | 76.6 | 1.8  |            | 52.6                     | 43.8 | 0    | 3.6  |            | 0          | 0    | 0    | 0    |            | 0                        | 74.1 | 25.4 | 0.5  |            |            |
| PHF                                                        | .600                      | .000 | .850 | .500 | .895       | .773                     | .924 | .000 | .875 | .851       | .000       | .000 | .000 | .000 | .000       | .000                     | .864 | .722 | .250 | .827       | .944       |





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### Groups Printed- Peds

[illegible]



File Name : 3 - Lakeshore @ Mudd Mill - 5-18-22

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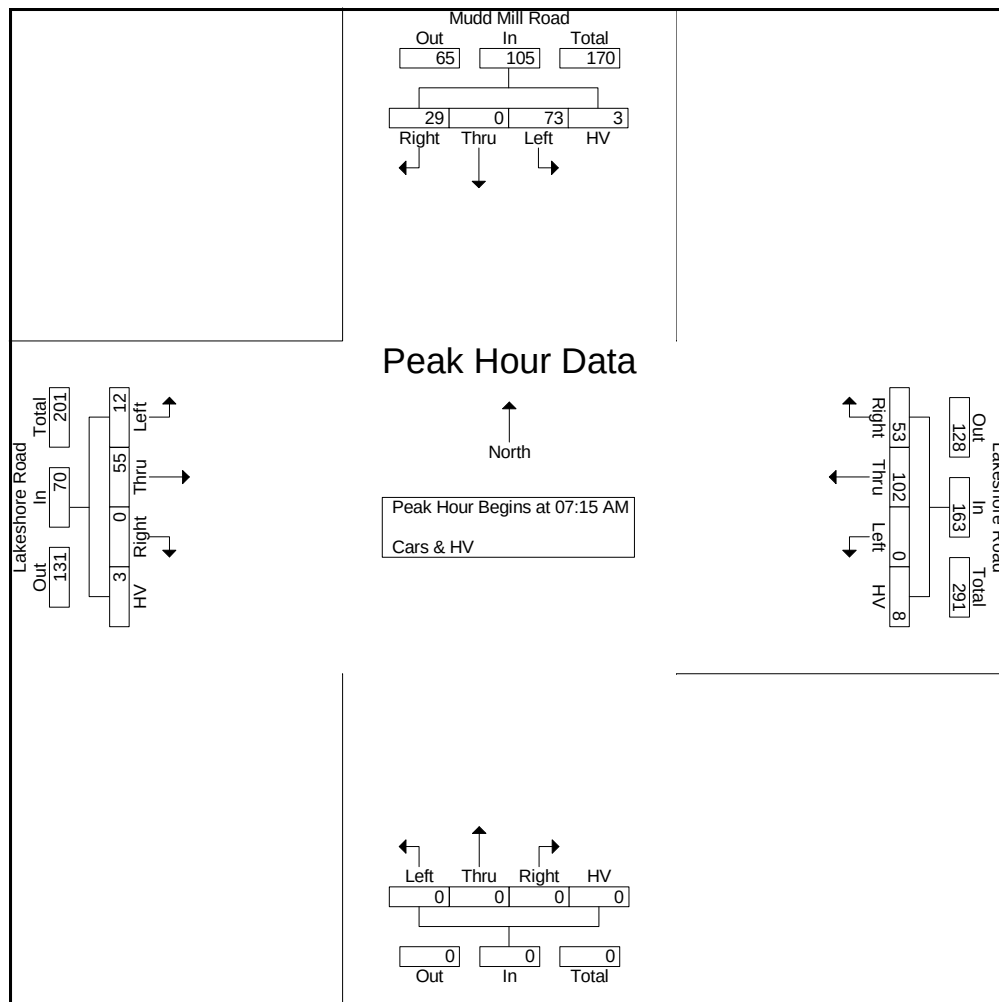
Groups Printed- Cars & HV

|             | Mudd Mill Road<br>Southbound |      |      |     | Lakeshore Road<br>Westbound |      |      |     | Northbound |      |      |    | Lakeshore Road<br>Eastbound |      |      |     | Int. Total |
|-------------|------------------------------|------|------|-----|-----------------------------|------|------|-----|------------|------|------|----|-----------------------------|------|------|-----|------------|
| Start Time  | Right                        | Thru | Left | HV  | Right                       | Thru | Left | HV  | Right      | Thru | Left | HV | Right                       | Thru | Left | HV  |            |
| 07:00 AM    | 11                           | 0    | 14   | 3   | 6                           | 26   | 0    | 1   | 0          | 0    | 0    | 0  | 0                           | 4    | 2    | 0   | 67         |
| 07:15 AM    | 7                            | 0    | 20   | 0   | 19                          | 32   | 0    | 3   | 0          | 0    | 0    | 0  | 0                           | 9    | 4    | 0   | 94         |
| 07:30 AM    | 7                            | 0    | 18   | 0   | 13                          | 29   | 0    | 1   | 0          | 0    | 0    | 0  | 0                           | 15   | 4    | 2   | 89         |
| 07:45 AM    | 8                            | 0    | 19   | 1   | 11                          | 23   | 0    | 3   | 0          | 0    | 0    | 0  | 0                           | 13   | 4    | 1   | 83         |
| Total       | 33                           | 0    | 71   | 4   | 49                          | 110  | 0    | 8   | 0          | 0    | 0    | 0  | 0                           | 41   | 14   | 3   | 333        |
| 08:00 AM    | 7                            | 0    | 16   | 2   | 10                          | 18   | 0    | 1   | 0          | 0    | 0    | 0  | 0                           | 18   | 0    | 0   | 72         |
| 08:15 AM    | 9                            | 0    | 18   | 2   | 8                           | 19   | 0    | 0   | 0          | 0    | 0    | 0  | 0                           | 20   | 3    | 3   | 82         |
| 08:30 AM    | 6                            | 0    | 10   | 1   | 2                           | 25   | 0    | 0   | 0          | 0    | 0    | 0  | 0                           | 21   | 3    | 1   | 69         |
| 08:45 AM    | 8                            | 0    | 5    | 1   | 1                           | 18   | 0    | 0   | 0          | 0    | 0    | 0  | 0                           | 29   | 2    | 5   | 69         |
| Total       | 30                           | 0    | 49   | 6   | 21                          | 80   | 0    | 1   | 0          | 0    | 0    | 0  | 0                           | 88   | 8    | 9   | 292        |
| 04:00 PM    | 9                            | 0    | 27   | 2   | 21                          | 32   | 0    | 3   | 0          | 0    | 0    | 0  | 0                           | 44   | 9    | 3   | 150        |
| 04:15 PM    | 7                            | 0    | 20   | 2   | 23                          | 32   | 0    | 3   | 0          | 0    | 0    | 0  | 0                           | 31   | 10   | 2   | 130        |
| 04:30 PM    | 7                            | 0    | 12   | 2   | 25                          | 39   | 0    | 3   | 0          | 0    | 0    | 0  | 0                           | 30   | 8    | 0   | 126        |
| 04:45 PM    | 10                           | 0    | 14   | 0   | 27                          | 21   | 0    | 0   | 0          | 0    | 0    | 0  | 0                           | 37   | 11   | 0   | 120        |
| Total       | 33                           | 0    | 73   | 6   | 96                          | 124  | 0    | 9   | 0          | 0    | 0    | 0  | 0                           | 142  | 38   | 5   | 526        |
| 05:00 PM    | 6                            | 0    | 25   | 1   | 24                          | 31   | 0    | 3   | 0          | 0    | 0    | 0  | 0                           | 32   | 16   | 2   | 140        |
| 05:15 PM    | 8                            | 0    | 17   | 0   | 21                          | 22   | 0    | 0   | 0          | 0    | 0    | 0  | 0                           | 27   | 8    | 0   | 103        |
| 05:30 PM    | 5                            | 0    | 22   | 1   | 16                          | 21   | 0    | 1   | 0          | 0    | 0    | 0  | 0                           | 34   | 12   | 0   | 112        |
| 05:45 PM    | 9                            | 0    | 23   | 1   | 14                          | 21   | 0    | 0   | 0          | 0    | 0    | 0  | 0                           | 20   | 9    | 1   | 98         |
| Total       | 28                           | 0    | 87   | 3   | 75                          | 95   | 0    | 4   | 0          | 0    | 0    | 0  | 0                           | 113  | 45   | 3   | 453        |
| Grand Total | 124                          | 0    | 280  | 19  | 241                         | 409  | 0    | 22  | 0          | 0    | 0    | 0  | 0                           | 384  | 105  | 20  | 1604       |
| Apprch %    | 29.3                         | 0    | 66.2 | 4.5 | 35.9                        | 60.9 | 0    | 3.3 | 0          | 0    | 0    | 0  | 0                           | 75.4 | 20.6 | 3.9 |            |
| Total %     | 7.7                          | 0    | 17.5 | 1.2 | 15                          | 25.5 | 0    | 1.4 | 0          | 0    | 0    | 0  | 0                           | 23.9 | 6.5  | 1.2 |            |



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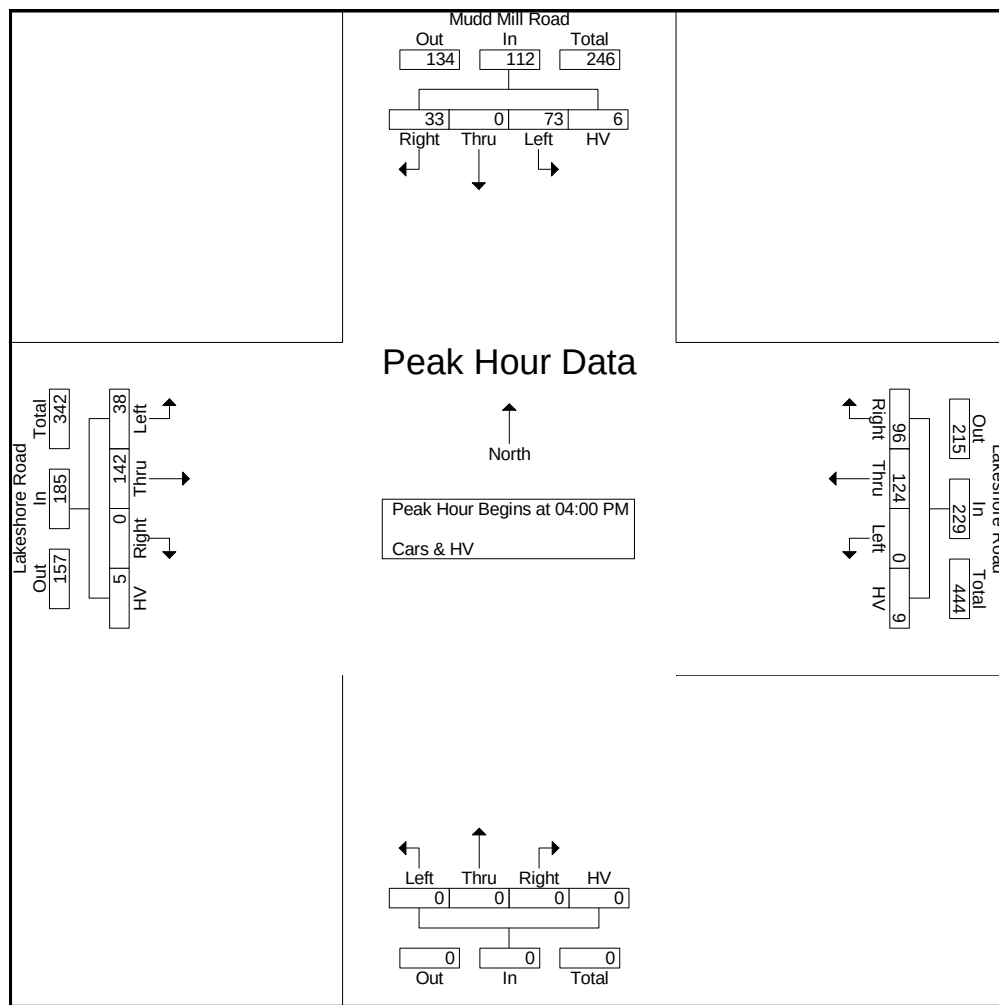
|                                                            | Mudd Mill Road Southbound |      |      |      |            | Lakeshore Road Westbound |      |      |      |            | Northbound |      |      |      |            | Lakeshore Road Eastbound |      |      |      |            |            |
|------------------------------------------------------------|---------------------------|------|------|------|------------|--------------------------|------|------|------|------------|------------|------|------|------|------------|--------------------------|------|------|------|------------|------------|
| Start Time                                                 | Right                     | Thru | Left | HV   | App. Total | Right                    | Thru | Left | HV   | App. Total | Right      | Thru | Left | HV   | App. Total | Right                    | Thru | Left | HV   | App. Total | Int. Total |
| Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1 |                           |      |      |      |            |                          |      |      |      |            |            |      |      |      |            |                          |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 07:15 AM       |                           |      |      |      |            |                          |      |      |      |            |            |      |      |      |            |                          |      |      |      |            |            |
| 07:15 AM                                                   | 7                         | 0    | 20   | 0    | 27         | 19                       | 32   | 0    | 3    | 54         | 0          | 0    | 0    | 0    | 0          | 0                        | 9    | 4    | 0    | 13         | 94         |
| 07:30 AM                                                   | 7                         | 0    | 18   | 0    | 25         | 13                       | 29   | 0    | 1    | 43         | 0          | 0    | 0    | 0    | 0          | 0                        | 15   | 4    | 2    | 21         | 89         |
| 07:45 AM                                                   | 8                         | 0    | 19   | 1    | 28         | 11                       | 23   | 0    | 3    | 37         | 0          | 0    | 0    | 0    | 0          | 0                        | 13   | 4    | 1    | 18         | 83         |
| 08:00 AM                                                   | 7                         | 0    | 16   | 2    | 25         | 10                       | 18   | 0    | 1    | 29         | 0          | 0    | 0    | 0    | 0          | 0                        | 18   | 0    | 0    | 18         | 72         |
| Total Volume                                               | 29                        | 0    | 73   | 3    | 105        | 53                       | 102  | 0    | 8    | 163        | 0          | 0    | 0    | 0    | 0          | 0                        | 55   | 12   | 3    | 70         | 338        |
| % App. Total                                               | 27.6                      | 0    | 69.5 | 2.9  |            | 32.5                     | 62.6 | 0    | 4.9  |            | 0          | 0    | 0    | 0    |            | 0                        | 78.6 | 17.1 | 4.3  |            |            |
| PHF                                                        | .906                      | .000 | .913 | .375 | .938       | .697                     | .797 | .000 | .667 | .755       | .000       | .000 | .000 | .000 | .000       | .000                     | .764 | .750 | .375 | .833       | .899       |





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|                                                            | Mudd Mill Road Southbound |      |      |      |            | Lakeshore Road Westbound |      |      |      |            | Northbound |      |      |      |            | Lakeshore Road Eastbound |      |      |      |            |            |
|------------------------------------------------------------|---------------------------|------|------|------|------------|--------------------------|------|------|------|------------|------------|------|------|------|------------|--------------------------|------|------|------|------------|------------|
| Start Time                                                 | Right                     | Thru | Left | HV   | App. Total | Right                    | Thru | Left | HV   | App. Total | Right      | Thru | Left | HV   | App. Total | Right                    | Thru | Left | HV   | App. Total | Int. Total |
| Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1 |                           |      |      |      |            |                          |      |      |      |            |            |      |      |      |            |                          |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 04:00 PM       |                           |      |      |      |            |                          |      |      |      |            |            |      |      |      |            |                          |      |      |      |            |            |
| 04:00 PM                                                   | 9                         | 0    | 27   | 2    | 38         | 21                       | 32   | 0    | 3    | 56         | 0          | 0    | 0    | 0    | 0          | 0                        | 44   | 9    | 3    | 56         | 150        |
| 04:15 PM                                                   | 7                         | 0    | 20   | 2    | 29         | 23                       | 32   | 0    | 3    | 58         | 0          | 0    | 0    | 0    | 0          | 0                        | 31   | 10   | 2    | 43         | 130        |
| 04:30 PM                                                   | 7                         | 0    | 12   | 2    | 21         | 25                       | 39   | 0    | 3    | 67         | 0          | 0    | 0    | 0    | 0          | 0                        | 30   | 8    | 0    | 38         | 126        |
| 04:45 PM                                                   | 10                        | 0    | 14   | 0    | 24         | 27                       | 21   | 0    | 0    | 48         | 0          | 0    | 0    | 0    | 0          | 0                        | 37   | 11   | 0    | 48         | 120        |
| Total Volume                                               | 33                        | 0    | 73   | 6    | 112        | 96                       | 124  | 0    | 9    | 229        | 0          | 0    | 0    | 0    | 0          | 0                        | 142  | 38   | 5    | 185        | 526        |
| % App. Total                                               | 29.5                      | 0    | 65.2 | 5.4  |            | 41.9                     | 54.1 | 0    | 3.9  |            | 0          | 0    | 0    | 0    |            | 0                        | 76.8 | 20.5 | 2.7  |            |            |
| PHF                                                        | .825                      | .000 | .676 | .750 | .737       | .889                     | .795 | .000 | .750 | .854       | .000       | .000 | .000 | .000 | .000       | .000                     | .807 | .864 | .417 | .826       | .877       |





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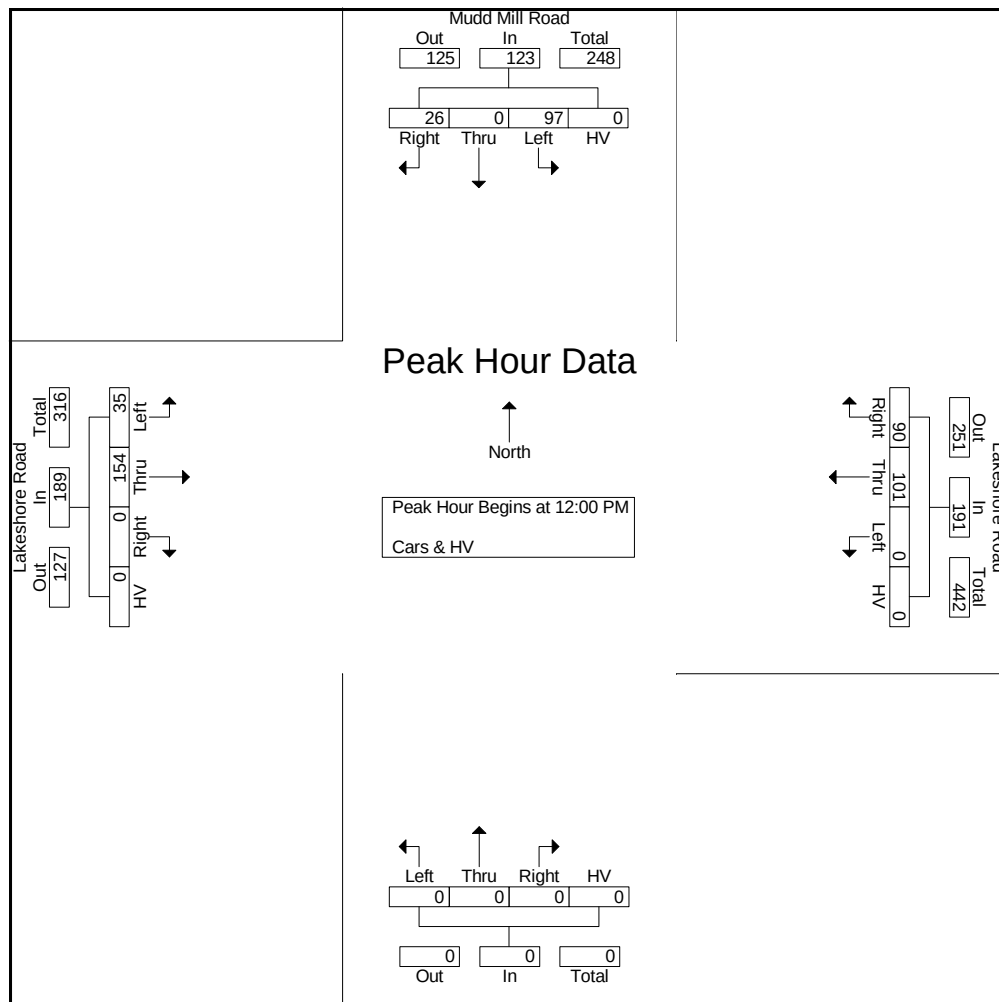
Groups Printed- Cars & HV

|             | Mudd Mill Road<br>Southbound |      |      |    | Lakeshore Road<br>Westbound |      |      |    | Northbound |      |      |    | Lakeshore Road<br>Eastbound |      |      |    |            |
|-------------|------------------------------|------|------|----|-----------------------------|------|------|----|------------|------|------|----|-----------------------------|------|------|----|------------|
| Start Time  | Right                        | Thru | Left | HV | Right                       | Thru | Left | HV | Right      | Thru | Left | HV | Right                       | Thru | Left | HV | Int. Total |
| 11:00 AM    | 9                            | 0    | 20   | 0  | 11                          | 27   | 0    | 0  | 0          | 0    | 0    | 0  | 0                           | 30   | 11   | 0  | 108        |
| 11:15 AM    | 13                           | 0    | 22   | 0  | 13                          | 20   | 0    | 0  | 0          | 0    | 0    | 0  | 0                           | 23   | 9    | 0  | 100        |
| 11:30 AM    | 10                           | 0    | 24   | 0  | 12                          | 27   | 0    | 0  | 0          | 0    | 0    | 0  | 0                           | 22   | 8    | 0  | 103        |
| 11:45 AM    | 10                           | 0    | 18   | 0  | 13                          | 19   | 0    | 0  | 0          | 0    | 0    | 0  | 0                           | 28   | 9    | 0  | 97         |
| Total       | 42                           | 0    | 84   | 0  | 49                          | 93   | 0    | 0  | 0          | 0    | 0    | 0  | 0                           | 103  | 37   | 0  | 408        |
| 12:00 PM    | 5                            | 0    | 16   | 0  | 25                          | 22   | 0    | 0  | 0          | 0    | 0    | 0  | 0                           | 47   | 11   | 0  | 126        |
| 12:15 PM    | 7                            | 0    | 27   | 0  | 23                          | 23   | 0    | 0  | 0          | 0    | 0    | 0  | 0                           | 33   | 11   | 0  | 124        |
| 12:30 PM    | 8                            | 0    | 28   | 0  | 20                          | 29   | 0    | 0  | 0          | 0    | 0    | 0  | 0                           | 38   | 6    | 0  | 129        |
| 12:45 PM    | 6                            | 0    | 26   | 0  | 22                          | 27   | 0    | 0  | 0          | 0    | 0    | 0  | 0                           | 36   | 7    | 0  | 124        |
| Total       | 26                           | 0    | 97   | 0  | 90                          | 101  | 0    | 0  | 0          | 0    | 0    | 0  | 0                           | 154  | 35   | 0  | 503        |
| Grand Total | 68                           | 0    | 181  | 0  | 139                         | 194  | 0    | 0  | 0          | 0    | 0    | 0  | 0                           | 257  | 72   | 0  | 911        |
| Apprch %    | 27.3                         | 0    | 72.7 | 0  | 41.7                        | 58.3 | 0    | 0  | 0          | 0    | 0    | 0  | 0                           | 78.1 | 21.9 | 0  |            |
| Total %     | 7.5                          | 0    | 19.9 | 0  | 15.3                        | 21.3 | 0    | 0  | 0          | 0    | 0    | 0  | 0                           | 28.2 | 7.9  | 0  |            |



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|                                                            | Mudd Mill Road Southbound |      |      |      |            | Lakeshore Road Westbound |      |      |      |            | Northbound |      |      |      |            | Lakeshore Road Eastbound |      |      |      |            |            |
|------------------------------------------------------------|---------------------------|------|------|------|------------|--------------------------|------|------|------|------------|------------|------|------|------|------------|--------------------------|------|------|------|------------|------------|
| Start Time                                                 | Right                     | Thru | Left | HV   | App. Total | Right                    | Thru | Left | HV   | App. Total | Right      | Thru | Left | HV   | App. Total | Right                    | Thru | Left | HV   | App. Total | Int. Total |
| Peak Hour Analysis From 11:00 AM to 12:45 PM - Peak 1 of 1 |                           |      |      |      |            |                          |      |      |      |            |            |      |      |      |            |                          |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 12:00 PM       |                           |      |      |      |            |                          |      |      |      |            |            |      |      |      |            |                          |      |      |      |            |            |
| 12:00 PM                                                   | 5                         | 0    | 16   | 0    | 21         | 25                       | 22   | 0    | 0    | 47         | 0          | 0    | 0    | 0    | 0          | 0                        | 47   | 11   | 0    | 58         | 126        |
| 12:15 PM                                                   | 7                         | 0    | 27   | 0    | 34         | 23                       | 23   | 0    | 0    | 46         | 0          | 0    | 0    | 0    | 0          | 0                        | 33   | 11   | 0    | 44         | 124        |
| 12:30 PM                                                   | 8                         | 0    | 28   | 0    | 36         | 20                       | 29   | 0    | 0    | 49         | 0          | 0    | 0    | 0    | 0          | 0                        | 38   | 6    | 0    | 44         | 129        |
| 12:45 PM                                                   | 6                         | 0    | 26   | 0    | 32         | 22                       | 27   | 0    | 0    | 49         | 0          | 0    | 0    | 0    | 0          | 0                        | 36   | 7    | 0    | 43         | 124        |
| Total Volume                                               | 26                        | 0    | 97   | 0    | 123        | 90                       | 101  | 0    | 0    | 191        | 0          | 0    | 0    | 0    | 0          | 0                        | 154  | 35   | 0    | 189        | 503        |
| % App. Total                                               | 21.1                      | 0    | 78.9 | 0    |            | 47.1                     | 52.9 | 0    | 0    |            | 0          | 0    | 0    | 0    |            | 0                        | 81.5 | 18.5 | 0    |            |            |
| PHF                                                        | .813                      | .000 | .866 | .000 | .854       | .900                     | .871 | .000 | .000 | .974       | .000       | .000 | .000 | .000 | .000       | .000                     | .819 | .795 | .000 | .815       | .975       |





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### Groups Printed- Peds

[illegible]



File Name : 4 - Route 31 @ Lakeshore East - 5-11-22

Site Code : 00000004

Start Date : 5/11/2022

Page No : 1

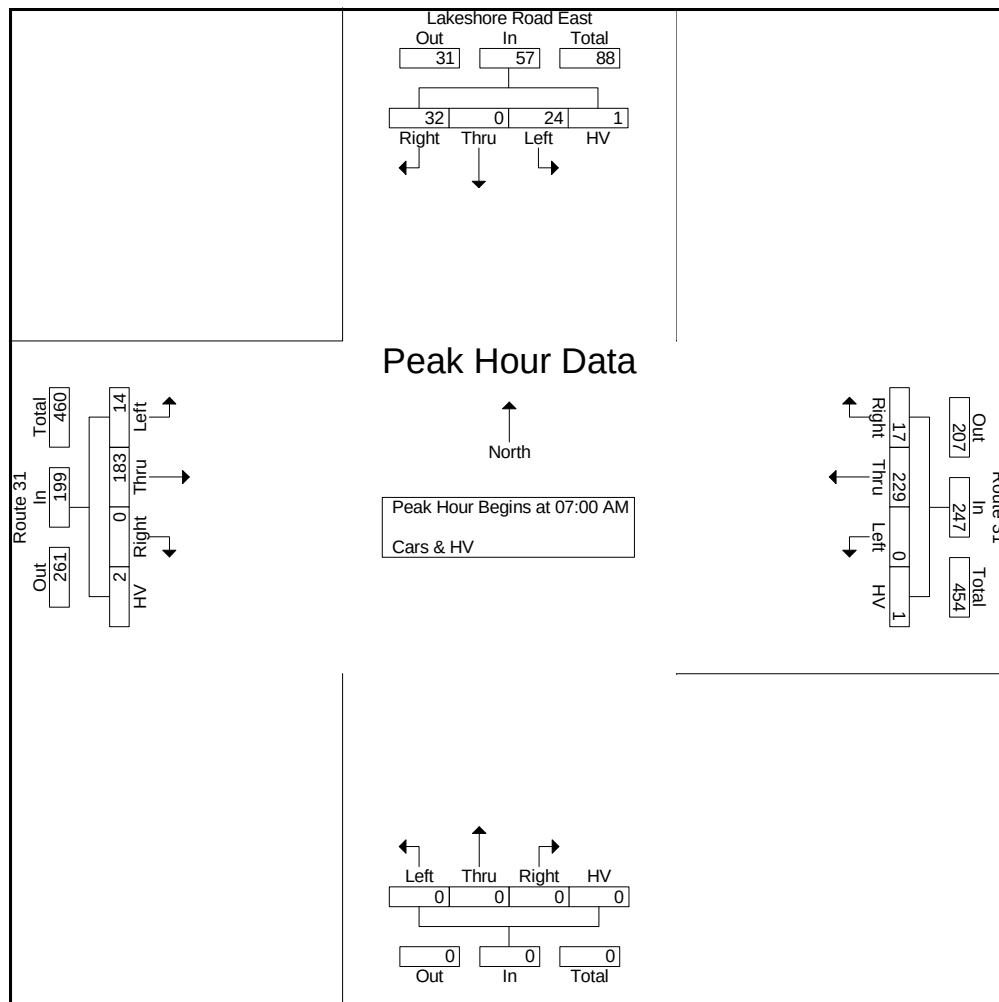
Groups Printed- Cars & HV

|             | Lakeshore Road East<br>Southbound |      |      |     | Route 31<br>Westbound |      |      |     | Northbound |      |      |    | Route 31<br>Eastbound |      |      |     | Int. Total |
|-------------|-----------------------------------|------|------|-----|-----------------------|------|------|-----|------------|------|------|----|-----------------------|------|------|-----|------------|
| Start Time  | Right                             | Thru | Left | HV  | Right                 | Thru | Left | HV  | Right      | Thru | Left | HV | Right                 | Thru | Left | HV  |            |
| 07:00 AM    | 12                                | 0    | 4    | 1   | 2                     | 59   | 0    | 0   | 0          | 0    | 0    | 0  | 0                     | 42   | 4    | 1   | 125        |
| 07:15 AM    | 7                                 | 0    | 6    | 0   | 3                     | 50   | 0    | 0   | 0          | 0    | 0    | 0  | 0                     | 42   | 4    | 0   | 112        |
| 07:30 AM    | 7                                 | 0    | 9    | 0   | 6                     | 62   | 0    | 1   | 0          | 0    | 0    | 0  | 0                     | 45   | 6    | 0   | 136        |
| 07:45 AM    | 6                                 | 0    | 5    | 0   | 6                     | 58   | 0    | 0   | 0          | 0    | 0    | 0  | 0                     | 54   | 0    | 1   | 130        |
| Total       | 32                                | 0    | 24   | 1   | 17                    | 229  | 0    | 1   | 0          | 0    | 0    | 0  | 0                     | 183  | 14   | 2   | 503        |
| 08:00 AM    | 7                                 | 0    | 9    | 0   | 3                     | 44   | 0    | 0   | 0          | 0    | 0    | 0  | 0                     | 40   | 7    | 2   | 112        |
| 08:15 AM    | 5                                 | 0    | 4    | 0   | 9                     | 34   | 0    | 0   | 0          | 0    | 0    | 0  | 0                     | 52   | 2    | 0   | 106        |
| 08:30 AM    | 4                                 | 0    | 5    | 0   | 7                     | 55   | 0    | 0   | 0          | 0    | 0    | 0  | 0                     | 51   | 2    | 0   | 124        |
| 08:45 AM    | 8                                 | 0    | 10   | 0   | 9                     | 58   | 0    | 0   | 0          | 0    | 0    | 0  | 0                     | 33   | 3    | 0   | 121        |
| Total       | 24                                | 0    | 28   | 0   | 28                    | 191  | 0    | 0   | 0          | 0    | 0    | 0  | 0                     | 176  | 14   | 2   | 463        |
| 04:00 PM    | 3                                 | 0    | 8    | 0   | 10                    | 86   | 0    | 0   | 0          | 0    | 0    | 0  | 0                     | 76   | 7    | 0   | 190        |
| 04:15 PM    | 7                                 | 0    | 7    | 0   | 11                    | 82   | 0    | 0   | 0          | 0    | 0    | 0  | 0                     | 105  | 5    | 0   | 217        |
| 04:30 PM    | 6                                 | 0    | 8    | 0   | 12                    | 89   | 0    | 0   | 0          | 0    | 0    | 0  | 0                     | 102  | 9    | 0   | 226        |
| 04:45 PM    | 7                                 | 0    | 12   | 0   | 10                    | 60   | 0    | 0   | 0          | 0    | 0    | 0  | 0                     | 105  | 16   | 0   | 210        |
| Total       | 23                                | 0    | 35   | 0   | 43                    | 317  | 0    | 0   | 0          | 0    | 0    | 0  | 0                     | 388  | 37   | 0   | 843        |
| 05:00 PM    | 6                                 | 0    | 7    | 0   | 5                     | 76   | 0    | 0   | 0          | 0    | 0    | 0  | 0                     | 71   | 14   | 0   | 179        |
| 05:15 PM    | 4                                 | 0    | 8    | 0   | 11                    | 90   | 0    | 0   | 0          | 0    | 0    | 0  | 3                     | 96   | 8    | 1   | 221        |
| 05:30 PM    | 4                                 | 0    | 4    | 0   | 8                     | 60   | 0    | 0   | 0          | 0    | 0    | 0  | 0                     | 82   | 11   | 0   | 169        |
| 05:45 PM    | 3                                 | 0    | 10   | 0   | 9                     | 77   | 0    | 0   | 0          | 0    | 0    | 0  | 0                     | 81   | 5    | 0   | 185        |
| Total       | 17                                | 0    | 29   | 0   | 33                    | 303  | 0    | 0   | 0          | 0    | 0    | 0  | 3                     | 330  | 38   | 1   | 754        |
| Grand Total | 96                                | 0    | 116  | 1   | 121                   | 1040 | 0    | 1   | 0          | 0    | 0    | 0  | 3                     | 1077 | 103  | 5   | 2563       |
| Apprch %    | 45.1                              | 0    | 54.5 | 0.5 | 10.4                  | 89.5 | 0    | 0.1 | 0          | 0    | 0    | 0  | 0.3                   | 90.7 | 8.7  | 0.4 |            |
| Total %     | 3.7                               | 0    | 4.5  | 0   | 4.7                   | 40.6 | 0    | 0   | 0          | 0    | 0    | 0  | 0.1                   | 42   | 4    | 0.2 |            |



File Name : 4 - Route 31 @ Lakeshore East - 5-11-22  
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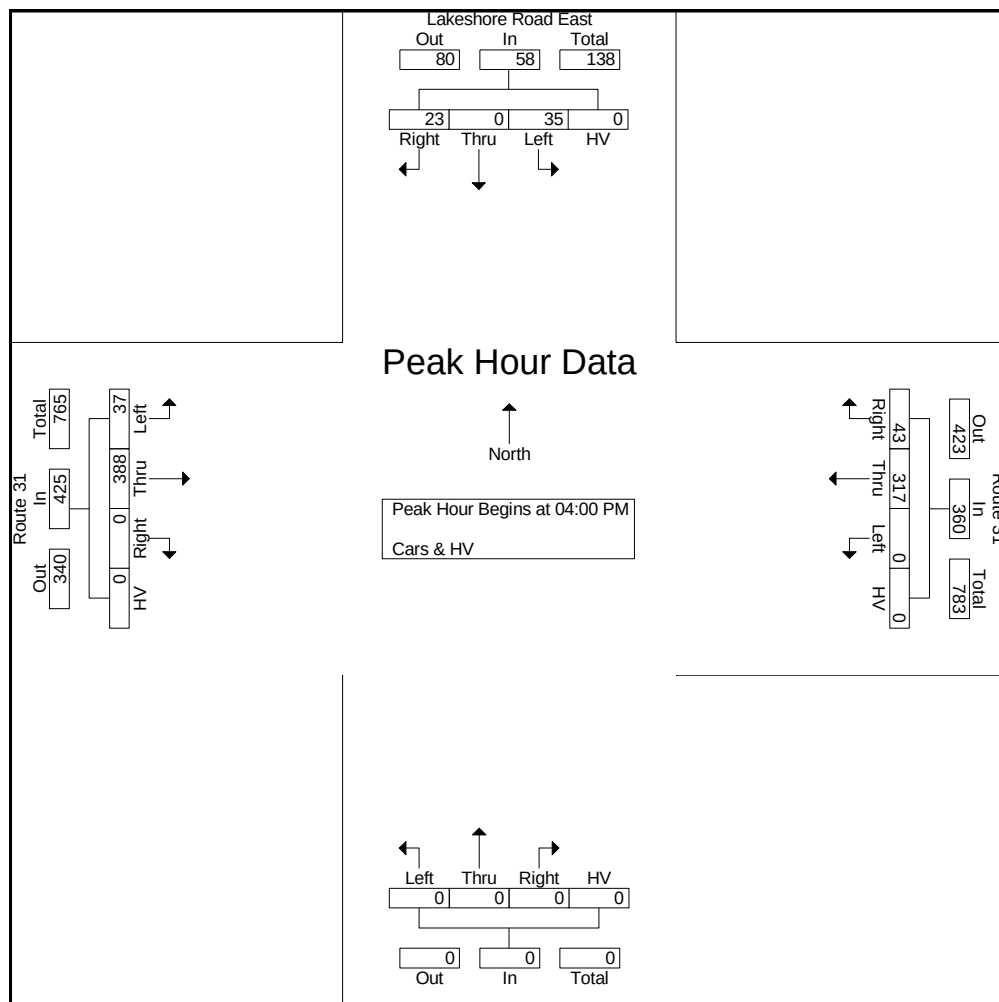
|                                                            | Lakeshore Road East Southbound |      |      |      |            | Route 31 Westbound |      |      |      |            | Northbound |      |      |      |            | Route 31 Eastbound |      |      |      |            |            |
|------------------------------------------------------------|--------------------------------|------|------|------|------------|--------------------|------|------|------|------------|------------|------|------|------|------------|--------------------|------|------|------|------------|------------|
| Start Time                                                 | Right                          | Thru | Left | HV   | App. Total | Right              | Thru | Left | HV   | App. Total | Right      | Thru | Left | HV   | App. Total | Right              | Thru | Left | HV   | App. Total | Int. Total |
| Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1 |                                |      |      |      |            |                    |      |      |      |            |            |      |      |      |            |                    |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 07:00 AM       |                                |      |      |      |            |                    |      |      |      |            |            |      |      |      |            |                    |      |      |      |            |            |
| 07:00 AM                                                   | 12                             | 0    | 4    | 1    | 17         | 2                  | 59   | 0    | 0    | 61         | 0          | 0    | 0    | 0    | 0          | 0                  | 42   | 4    | 1    | 47         | 125        |
| 07:15 AM                                                   | 7                              | 0    | 6    | 0    | 13         | 3                  | 50   | 0    | 0    | 53         | 0          | 0    | 0    | 0    | 0          | 0                  | 42   | 4    | 0    | 46         | 112        |
| 07:30 AM                                                   | 7                              | 0    | 9    | 0    | 16         | 6                  | 62   | 0    | 1    | 69         | 0          | 0    | 0    | 0    | 0          | 0                  | 45   | 6    | 0    | 51         | 136        |
| 07:45 AM                                                   | 6                              | 0    | 5    | 0    | 11         | 6                  | 58   | 0    | 0    | 64         | 0          | 0    | 0    | 0    | 0          | 0                  | 54   | 0    | 1    | 55         | 130        |
| Total Volume                                               | 32                             | 0    | 24   | 1    | 57         | 17                 | 229  | 0    | 1    | 247        | 0          | 0    | 0    | 0    | 0          | 0                  | 183  | 14   | 2    | 199        | 503        |
| % App. Total                                               | 56.1                           | 0    | 42.1 | 1.8  |            | 6.9                | 92.7 | 0    | 0.4  |            | 0          | 0    | 0    | 0    |            | 0                  | 92   | 7    | 1    |            |            |
| PHF                                                        | .667                           | .000 | .667 | .250 | .838       | .708               | .923 | .000 | .250 | .895       | .000       | .000 | .000 | .000 | .000       | .000               | .847 | .583 | .500 | .905       | .925       |





File Name : 4 - Route 31 @ Lakeshore East - 5-11-22  
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|                                                            | Lakeshore Road East<br>Southbound |      |      |      |            | Route 31<br>Westbound |      |      |      |            | Northbound |      |      |      |            | Route 31<br>Eastbound |      |      |      |            |            |
|------------------------------------------------------------|-----------------------------------|------|------|------|------------|-----------------------|------|------|------|------------|------------|------|------|------|------------|-----------------------|------|------|------|------------|------------|
| Start<br>Time                                              | Right                             | Thru | Left | HV   | App. Total | Right                 | Thru | Left | HV   | App. Total | Right      | Thru | Left | HV   | App. Total | Right                 | Thru | Left | HV   | App. Total | Int. Total |
| Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1 |                                   |      |      |      |            |                       |      |      |      |            |            |      |      |      |            |                       |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 04:00 PM       |                                   |      |      |      |            |                       |      |      |      |            |            |      |      |      |            |                       |      |      |      |            |            |
| 04:00 PM                                                   | 3                                 | 0    | 8    | 0    | 11         | 10                    | 86   | 0    | 0    | 96         | 0          | 0    | 0    | 0    | 0          | 0                     | 76   | 7    | 0    | 83         | 190        |
| 04:15 PM                                                   | 7                                 | 0    | 7    | 0    | 14         | 11                    | 82   | 0    | 0    | 93         | 0          | 0    | 0    | 0    | 0          | 0                     | 105  | 5    | 0    | 110        | 217        |
| 04:30 PM                                                   | 6                                 | 0    | 8    | 0    | 14         | 12                    | 89   | 0    | 0    | 101        | 0          | 0    | 0    | 0    | 0          | 0                     | 102  | 9    | 0    | 111        | 226        |
| 04:45 PM                                                   | 7                                 | 0    | 12   | 0    | 19         | 10                    | 60   | 0    | 0    | 70         | 0          | 0    | 0    | 0    | 0          | 0                     | 105  | 16   | 0    | 121        | 210        |
| Total Volume                                               | 23                                | 0    | 35   | 0    | 58         | 43                    | 317  | 0    | 0    | 360        | 0          | 0    | 0    | 0    | 0          | 0                     | 388  | 37   | 0    | 425        | 843        |
| % App. Total                                               | 39.7                              | 0    | 60.3 | 0    |            | 11.9                  | 88.1 | 0    | 0    |            | 0          | 0    | 0    | 0    | 0          | 0                     | 91.3 | 8.7  | 0    |            |            |
| PHF                                                        | .821                              | .000 | .729 | .000 | .763       | .896                  | .890 | .000 | .000 | .891       | .000       | .000 | .000 | .000 | .000       | .000                  | .924 | .578 | .000 | .878       | .933       |





File Name : 4 - Route 31 @ Lakeshore East - 5-11-22

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Groups Printed- Peds

|             | Lakeshore Road East<br>Southbound |      |      |      | Route 31<br>Westbound |      |      |      | Northbound |      |      |      | Route 31<br>Eastbound |      |      |      | Int. Total |
|-------------|-----------------------------------|------|------|------|-----------------------|------|------|------|------------|------|------|------|-----------------------|------|------|------|------------|
| Start Time  | Right                             | Thru | Left | Peds | Right                 | Thru | Left | Peds | Right      | Thru | Left | Peds | Right                 | Thru | Left | Peds |            |
| 07:30 AM    | 0                                 | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 0          | 0    | 0    | 0    | 0                     | 1    | 0    | 0    | 1          |
| 07:45 AM    | 0                                 | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 0          | 0    | 0    | 0    | 0                     | 1    | 0    | 0    | 1          |
| Total       | 0                                 | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 0          | 0    | 0    | 0    | 0                     | 2    | 0    | 0    | 2          |
| Grand Total | 0                                 | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 0          | 0    | 0    | 0    | 0                     | 2    | 0    | 0    | 2          |
| Apprch %    | 0                                 | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 0          | 0    | 0    | 0    | 0                     | 100  | 0    | 0    |            |
| Total %     | 0                                 | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 0          | 0    | 0    | 0    | 0                     | 100  | 0    | 0    |            |



File Name : 4 - Route 31 @ Lakeshore East - 5-12-22

Site Code : 00000004

Start Date : 5/12/2022

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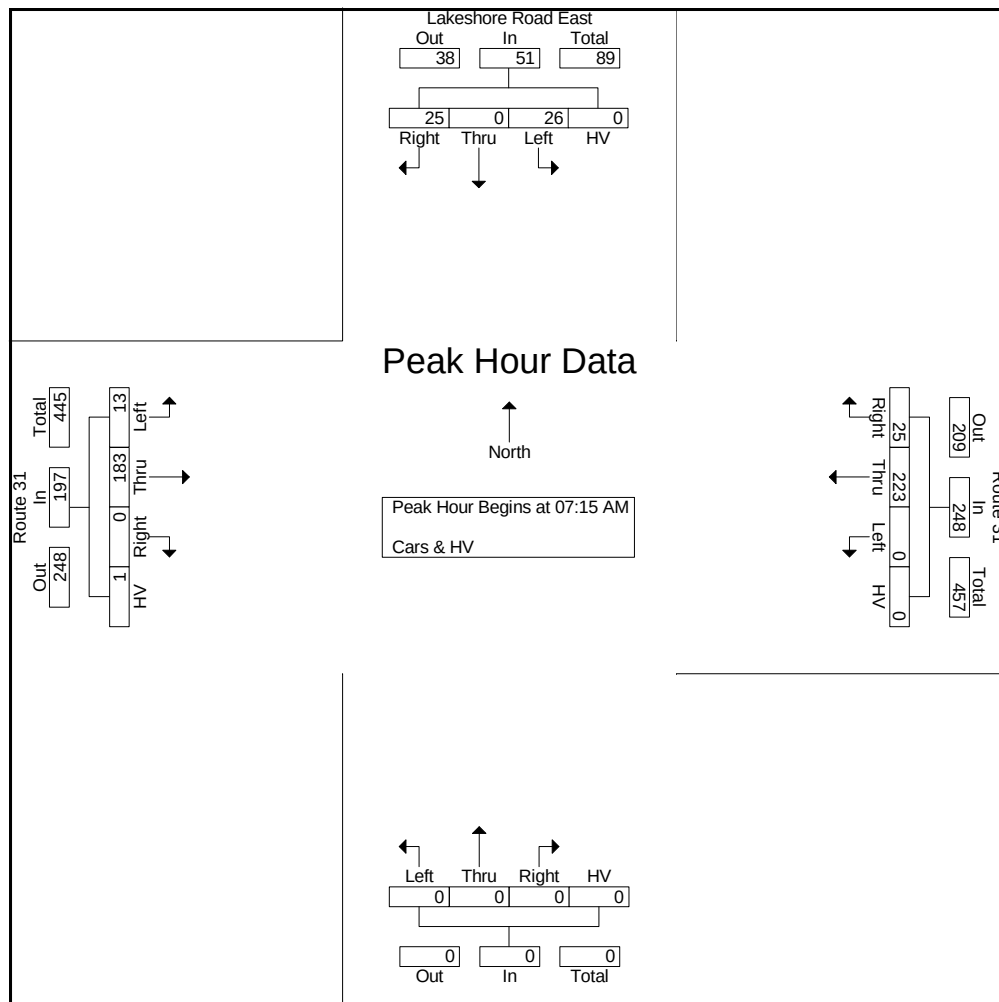
Groups Printed- Cars & HV

|             | Lakeshore Road East Southbound |      |      |    | Route 31 Westbound |      |      |     | Northbound |      |      |    | Route 31 Eastbound |      |      |     | Int. Total |
|-------------|--------------------------------|------|------|----|--------------------|------|------|-----|------------|------|------|----|--------------------|------|------|-----|------------|
| Start Time  | Right                          | Thru | Left | HV | Right              | Thru | Left | HV  | Right      | Thru | Left | HV | Right              | Thru | Left | HV  |            |
| 07:00 AM    | 7                              | 0    | 5    | 0  | 3                  | 47   | 0    | 1   | 0          | 0    | 0    | 0  | 0                  | 33   | 1    | 1   | 98         |
| 07:15 AM    | 11                             | 0    | 6    | 0  | 3                  | 66   | 0    | 0   | 0          | 0    | 0    | 0  | 0                  | 49   | 1    | 0   | 136        |
| 07:30 AM    | 4                              | 0    | 6    | 0  | 3                  | 55   | 0    | 0   | 0          | 0    | 0    | 0  | 0                  | 41   | 6    | 0   | 115        |
| 07:45 AM    | 4                              | 0    | 6    | 0  | 5                  | 47   | 0    | 0   | 0          | 0    | 0    | 0  | 0                  | 55   | 2    | 0   | 119        |
| Total       | 26                             | 0    | 23   | 0  | 14                 | 215  | 0    | 1   | 0          | 0    | 0    | 0  | 0                  | 178  | 10   | 1   | 468        |
| 08:00 AM    | 6                              | 0    | 8    | 0  | 14                 | 55   | 0    | 0   | 0          | 0    | 0    | 0  | 0                  | 38   | 4    | 1   | 126        |
| 08:15 AM    | 7                              | 0    | 3    | 0  | 7                  | 43   | 0    | 0   | 0          | 0    | 0    | 0  | 0                  | 41   | 1    | 0   | 102        |
| 08:30 AM    | 4                              | 0    | 9    | 0  | 7                  | 50   | 0    | 0   | 0          | 0    | 0    | 0  | 0                  | 45   | 1    | 0   | 116        |
| 08:45 AM    | 5                              | 0    | 7    | 0  | 11                 | 50   | 0    | 0   | 0          | 0    | 0    | 0  | 0                  | 32   | 1    | 0   | 106        |
| Total       | 22                             | 0    | 27   | 0  | 39                 | 198  | 0    | 0   | 0          | 0    | 0    | 0  | 0                  | 156  | 7    | 1   | 450        |
| 04:00 PM    | 11                             | 0    | 16   | 0  | 4                  | 82   | 0    | 0   | 0          | 0    | 0    | 0  | 0                  | 77   | 7    | 0   | 197        |
| 04:15 PM    | 3                              | 0    | 11   | 0  | 7                  | 71   | 0    | 0   | 0          | 0    | 0    | 0  | 0                  | 86   | 7    | 0   | 185        |
| 04:30 PM    | 3                              | 0    | 10   | 0  | 10                 | 82   | 0    | 0   | 0          | 0    | 0    | 0  | 5                  | 99   | 9    | 0   | 218        |
| 04:45 PM    | 6                              | 0    | 8    | 0  | 9                  | 72   | 0    | 0   | 0          | 0    | 0    | 0  | 0                  | 113  | 9    | 0   | 217        |
| Total       | 23                             | 0    | 45   | 0  | 30                 | 307  | 0    | 0   | 0          | 0    | 0    | 0  | 5                  | 375  | 32   | 0   | 817        |
| 05:00 PM    | 0                              | 0    | 9    | 0  | 10                 | 75   | 0    | 0   | 0          | 0    | 0    | 0  | 0                  | 88   | 14   | 0   | 196        |
| 05:15 PM    | 3                              | 0    | 9    | 0  | 12                 | 89   | 0    | 0   | 0          | 0    | 0    | 0  | 0                  | 75   | 8    | 0   | 196        |
| 05:30 PM    | 6                              | 0    | 8    | 0  | 8                  | 78   | 1    | 0   | 0          | 0    | 0    | 0  | 0                  | 85   | 16   | 0   | 202        |
| 05:45 PM    | 5                              | 0    | 7    | 0  | 11                 | 70   | 0    | 0   | 0          | 0    | 0    | 0  | 0                  | 66   | 10   | 0   | 169        |
| Total       | 14                             | 0    | 33   | 0  | 41                 | 312  | 1    | 0   | 0          | 0    | 0    | 0  | 0                  | 314  | 48   | 0   | 763        |
| Grand Total | 85                             | 0    | 128  | 0  | 124                | 1032 | 1    | 1   | 0          | 0    | 0    | 0  | 5                  | 1023 | 97   | 2   | 2498       |
| Apprch %    | 39.9                           | 0    | 60.1 | 0  | 10.7               | 89.1 | 0.1  | 0.1 | 0          | 0    | 0    | 0  | 0.4                | 90.8 | 8.6  | 0.2 |            |
| Total %     | 3.4                            | 0    | 5.1  | 0  | 5                  | 41.3 | 0    | 0   | 0          | 0    | 0    | 0  | 0.2                | 41   | 3.9  | 0.1 |            |



File Name : 4 - Route 31 @ Lakeshore East - 5-12-22  
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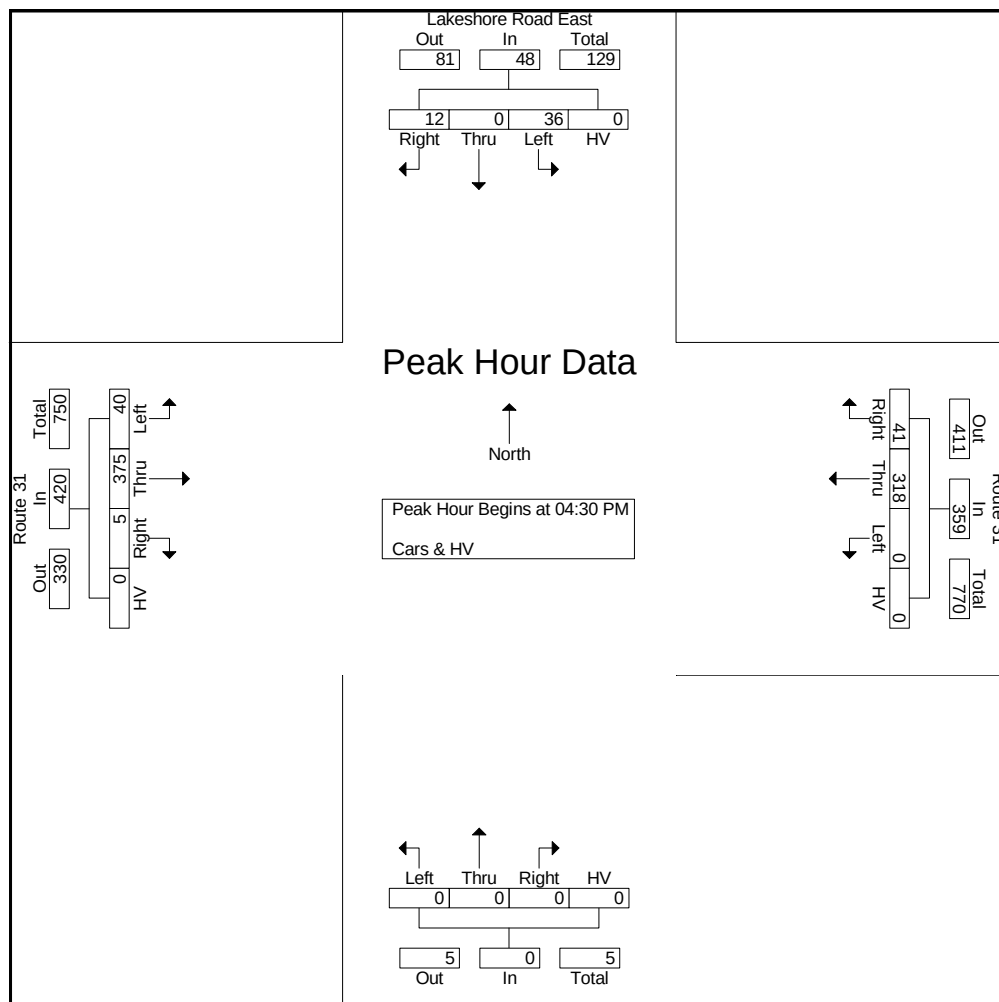
|                                                            | Lakeshore Road East Southbound |      |      |      |            | Route 31 Westbound |      |      |      |            | Northbound |      |      |      |            | Route 31 Eastbound |      |      |      |            |            |
|------------------------------------------------------------|--------------------------------|------|------|------|------------|--------------------|------|------|------|------------|------------|------|------|------|------------|--------------------|------|------|------|------------|------------|
| Start Time                                                 | Right                          | Thru | Left | HV   | App. Total | Right              | Thru | Left | HV   | App. Total | Right      | Thru | Left | HV   | App. Total | Right              | Thru | Left | HV   | App. Total | Int. Total |
| Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1 |                                |      |      |      |            |                    |      |      |      |            |            |      |      |      |            |                    |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 07:15 AM       |                                |      |      |      |            |                    |      |      |      |            |            |      |      |      |            |                    |      |      |      |            |            |
| 07:15 AM                                                   | 11                             | 0    | 6    | 0    | 17         | 3                  | 66   | 0    | 0    | 69         | 0          | 0    | 0    | 0    | 0          | 0                  | 49   | 1    | 0    | 50         | 136        |
| 07:30 AM                                                   | 4                              | 0    | 6    | 0    | 10         | 3                  | 55   | 0    | 0    | 58         | 0          | 0    | 0    | 0    | 0          | 0                  | 41   | 6    | 0    | 47         | 115        |
| 07:45 AM                                                   | 4                              | 0    | 6    | 0    | 10         | 5                  | 47   | 0    | 0    | 52         | 0          | 0    | 0    | 0    | 0          | 0                  | 55   | 2    | 0    | 57         | 119        |
| 08:00 AM                                                   | 6                              | 0    | 8    | 0    | 14         | 14                 | 55   | 0    | 0    | 69         | 0          | 0    | 0    | 0    | 0          | 0                  | 38   | 4    | 1    | 43         | 126        |
| Total Volume                                               | 25                             | 0    | 26   | 0    | 51         | 25                 | 223  | 0    | 0    | 248        | 0          | 0    | 0    | 0    | 0          | 0                  | 183  | 13   | 1    | 197        | 496        |
| % App. Total                                               | 49                             | 0    | 51   | 0    |            | 10.1               | 89.9 | 0    | 0    |            | 0          | 0    | 0    | 0    |            | 0                  | 92.9 | 6.6  | 0.5  |            |            |
| PHF                                                        | .568                           | .000 | .813 | .000 | .750       | .446               | .845 | .000 | .000 | .899       | .000       | .000 | .000 | .000 | .000       | .000               | .832 | .542 | .250 | .864       | .912       |





File Name : 4 - Route 31 @ Lakeshore East - 5-12-22  
 Site Code : 00000004  
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|                                                            | Lakeshore Road East Southbound |      |      |      |            | Route 31 Westbound |      |      |      |            | Northbound |      |      |      |            | Route 31 Eastbound |      |      |      |            |            |
|------------------------------------------------------------|--------------------------------|------|------|------|------------|--------------------|------|------|------|------------|------------|------|------|------|------------|--------------------|------|------|------|------------|------------|
| Start Time                                                 | Right                          | Thru | Left | HV   | App. Total | Right              | Thru | Left | HV   | App. Total | Right      | Thru | Left | HV   | App. Total | Right              | Thru | Left | HV   | App. Total | Int. Total |
| Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1 |                                |      |      |      |            |                    |      |      |      |            |            |      |      |      |            |                    |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 04:30 PM       |                                |      |      |      |            |                    |      |      |      |            |            |      |      |      |            |                    |      |      |      |            |            |
| 04:30 PM                                                   | 3                              | 0    | 10   | 0    | 13         | 10                 | 82   | 0    | 0    | 92         | 0          | 0    | 0    | 0    | 0          | 5                  | 99   | 9    | 0    | 113        | 218        |
| 04:45 PM                                                   | 6                              | 0    | 8    | 0    | 14         | 9                  | 72   | 0    | 0    | 81         | 0          | 0    | 0    | 0    | 0          | 0                  | 113  | 9    | 0    | 122        | 217        |
| 05:00 PM                                                   | 0                              | 0    | 9    | 0    | 9          | 10                 | 75   | 0    | 0    | 85         | 0          | 0    | 0    | 0    | 0          | 0                  | 88   | 14   | 0    | 102        | 196        |
| 05:15 PM                                                   | 3                              | 0    | 9    | 0    | 12         | 12                 | 89   | 0    | 0    | 101        | 0          | 0    | 0    | 0    | 0          | 0                  | 75   | 8    | 0    | 83         | 196        |
| Total Volume                                               | 12                             | 0    | 36   | 0    | 48         | 41                 | 318  | 0    | 0    | 359        | 0          | 0    | 0    | 0    | 0          | 5                  | 375  | 40   | 0    | 420        | 827        |
| % App. Total                                               | 25                             | 0    | 75   | 0    |            | 11.4               | 88.6 | 0    | 0    |            | 0          | 0    | 0    | 0    |            | 1.2                | 89.3 | 9.5  | 0    |            |            |
| PHF                                                        | .500                           | .000 | .900 | .000 | .857       | .854               | .893 | .000 | .000 | .889       | .000       | .000 | .000 | .000 | .000       | .250               | .830 | .714 | .000 | .861       | .948       |





File Name : 4 - Route 31 @ Lakeshore East - 5-12-22

Site Code : 00000004

Start Date : 5/12/2022

Page No : 1

Groups Printed- Peds

|             | Lakeshore Road East<br>Southbound |      |      |      | Route 31<br>Westbound |      |      |      | Northbound |      |      |      | Route 31<br>Eastbound |      |      |      |            |
|-------------|-----------------------------------|------|------|------|-----------------------|------|------|------|------------|------|------|------|-----------------------|------|------|------|------------|
| Start Time  | Right                             | Thru | Left | Peds | Right                 | Thru | Left | Peds | Right      | Thru | Left | Peds | Right                 | Thru | Left | Peds | Int. Total |
| 08:00 AM    | 0                                 | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 0          | 0    | 0    | 0    | 0                     | 1    | 0    | 0    | 1          |
| Total       | 0                                 | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 0          | 0    | 0    | 0    | 0                     | 1    | 0    | 0    | 1          |
| Grand Total | 0                                 | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 0          | 0    | 0    | 0    | 0                     | 1    | 0    | 0    | 1          |
| Apprch %    | 0                                 | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 0          | 0    | 0    | 0    | 0                     | 100  | 0    | 0    |            |
| Total %     | 0                                 | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 0          | 0    | 0    | 0    | 0                     | 100  | 0    | 0    |            |



File Name : 4 - Route 31 @ Lakeshore East - 5-14-22

Site Code : 00000004

Start Date : 5/14/2022

Page No : 1

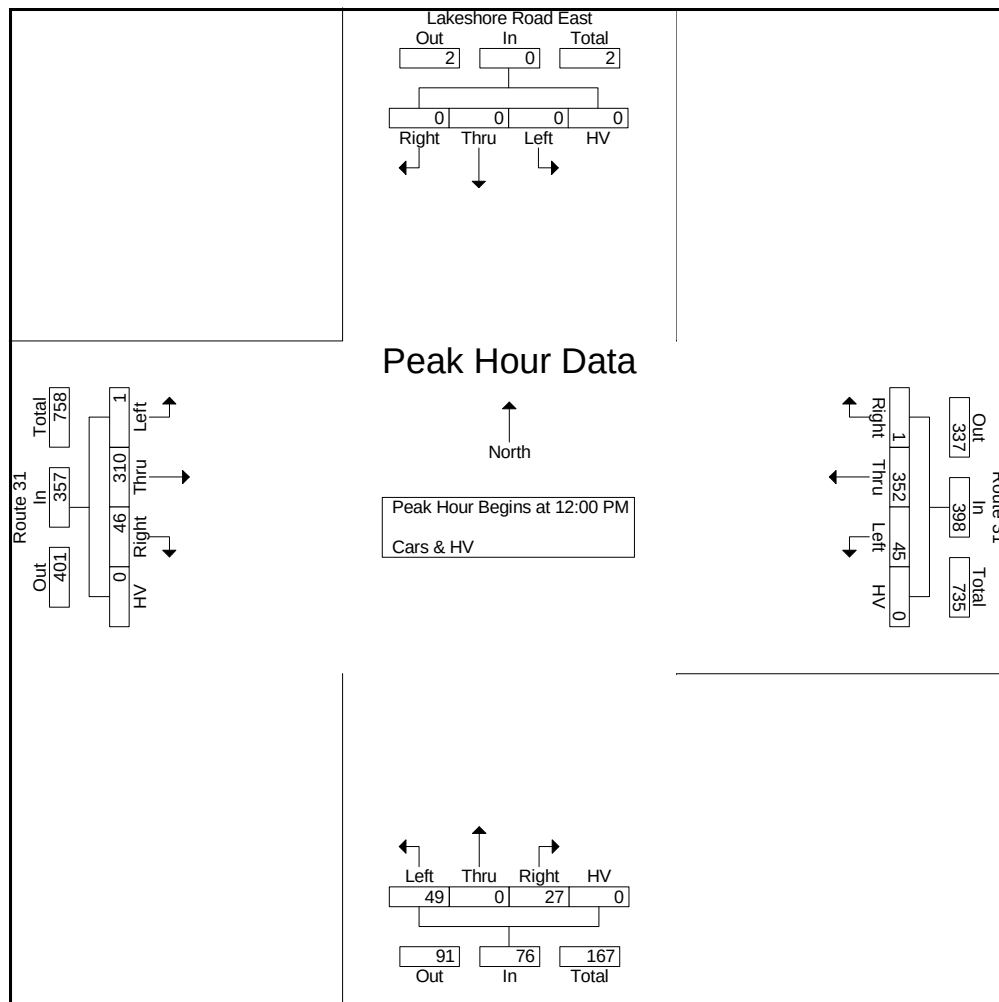
Groups Printed- Cars & HV

|             | Lakeshore Road East<br>Southbound |      |      |    | Route 31<br>Westbound |      |      |     | Northbound |      |      |    | Route 31<br>Eastbound |      |      |     |            |
|-------------|-----------------------------------|------|------|----|-----------------------|------|------|-----|------------|------|------|----|-----------------------|------|------|-----|------------|
| Start Time  | Right                             | Thru | Left | HV | Right                 | Thru | Left | HV  | Right      | Thru | Left | HV | Right                 | Thru | Left | HV  | Int. Total |
| 11:00 AM    | 0                                 | 0    | 0    | 0  | 0                     | 85   | 9    | 2   | 5          | 0    | 12   | 0  | 9                     | 65   | 0    | 1   | 188        |
| 11:15 AM    | 0                                 | 0    | 0    | 0  | 0                     | 76   | 7    | 2   | 11         | 0    | 12   | 0  | 15                    | 88   | 0    | 0   | 211        |
| 11:30 AM    | 0                                 | 0    | 0    | 0  | 0                     | 94   | 8    | 0   | 5          | 0    | 9    | 0  | 10                    | 71   | 0    | 0   | 197        |
| 11:45 AM    | 0                                 | 0    | 0    | 0  | 0                     | 90   | 16   | 0   | 6          | 0    | 19   | 0  | 15                    | 65   | 0    | 0   | 211        |
| Total       | 0                                 | 0    | 0    | 0  | 0                     | 345  | 40   | 4   | 27         | 0    | 52   | 0  | 49                    | 289  | 0    | 1   | 807        |
| 12:00 PM    | 0                                 | 0    | 0    | 0  | 1                     | 81   | 6    | 0   | 7          | 0    | 12   | 0  | 9                     | 60   | 1    | 0   | 177        |
| 12:15 PM    | 0                                 | 0    | 0    | 0  | 0                     | 84   | 16   | 0   | 5          | 0    | 13   | 0  | 11                    | 90   | 0    | 0   | 219        |
| 12:30 PM    | 0                                 | 0    | 0    | 0  | 0                     | 86   | 12   | 0   | 8          | 0    | 8    | 0  | 10                    | 84   | 0    | 0   | 208        |
| 12:45 PM    | 0                                 | 0    | 0    | 0  | 0                     | 101  | 11   | 0   | 7          | 0    | 16   | 0  | 16                    | 76   | 0    | 0   | 227        |
| Total       | 0                                 | 0    | 0    | 0  | 1                     | 352  | 45   | 0   | 27         | 0    | 49   | 0  | 46                    | 310  | 1    | 0   | 831        |
| Grand Total | 0                                 | 0    | 0    | 0  | 1                     | 697  | 85   | 4   | 54         | 0    | 101  | 0  | 95                    | 599  | 1    | 1   | 1638       |
| Apprch %    | 0                                 | 0    | 0    | 0  | 0.1                   | 88.6 | 10.8 | 0.5 | 34.8       | 0    | 65.2 | 0  | 13.6                  | 86.1 | 0.1  | 0.1 |            |
| Total %     | 0                                 | 0    | 0    | 0  | 0.1                   | 42.6 | 5.2  | 0.2 | 3.3        | 0    | 6.2  | 0  | 5.8                   | 36.6 | 0.1  | 0.1 |            |



File Name : 4 - Route 31 @ Lakeshore East - 5-14-22  
 Site Code : 00000004  
 Start Date : 5/14/2022  
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|                                                            | Lakeshore Road East Southbound |      |      |      |            | Route 31 Westbound |      |      |      |            | Northbound |      |      |      |            | Route 31 Eastbound |      |      |      |            |            |
|------------------------------------------------------------|--------------------------------|------|------|------|------------|--------------------|------|------|------|------------|------------|------|------|------|------------|--------------------|------|------|------|------------|------------|
| Start Time                                                 | Right                          | Thru | Left | HV   | App. Total | Right              | Thru | Left | HV   | App. Total | Right      | Thru | Left | HV   | App. Total | Right              | Thru | Left | HV   | App. Total | Int. Total |
| Peak Hour Analysis From 11:00 AM to 12:45 PM - Peak 1 of 1 |                                |      |      |      |            |                    |      |      |      |            |            |      |      |      |            |                    |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 12:00 PM       |                                |      |      |      |            |                    |      |      |      |            |            |      |      |      |            |                    |      |      |      |            |            |
| 12:00 PM                                                   | 0                              | 0    | 0    | 0    | 0          | 1                  | 81   | 6    | 0    | 88         | 7          | 0    | 12   | 0    | 19         | 9                  | 60   | 1    | 0    | 70         | 177        |
| 12:15 PM                                                   | 0                              | 0    | 0    | 0    | 0          | 0                  | 84   | 16   | 0    | 100        | 5          | 0    | 13   | 0    | 18         | 11                 | 90   | 0    | 0    | 101        | 219        |
| 12:30 PM                                                   | 0                              | 0    | 0    | 0    | 0          | 0                  | 86   | 12   | 0    | 98         | 8          | 0    | 8    | 0    | 16         | 10                 | 84   | 0    | 0    | 94         | 208        |
| 12:45 PM                                                   | 0                              | 0    | 0    | 0    | 0          | 0                  | 101  | 11   | 0    | 112        | 7          | 0    | 16   | 0    | 23         | 16                 | 76   | 0    | 0    | 92         | 227        |
| Total Volume                                               | 0                              | 0    | 0    | 0    | 0          | 1                  | 352  | 45   | 0    | 398        | 27         | 0    | 49   | 0    | 76         | 46                 | 310  | 1    | 0    | 357        | 831        |
| % App. Total                                               | 0                              | 0    | 0    | 0    | 0          | 0.3                | 88.4 | 11.3 | 0    |            | 35.5       | 0    | 64.5 | 0    |            | 12.9               | 86.8 | 0.3  | 0    |            |            |
| PHF                                                        | .000                           | .000 | .000 | .000 | .000       | .250               | .871 | .703 | .000 | .888       | .844       | .000 | .766 | .000 | .826       | .719               | .861 | .250 | .000 | .884       | .915       |





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### Groups Printed- Peds

[illegible]



File Name : 5 - Route 31 @ Cicero Center - 5-12-22

Site Code : 00000005

Start Date : 5/12/2022

Page No : 1

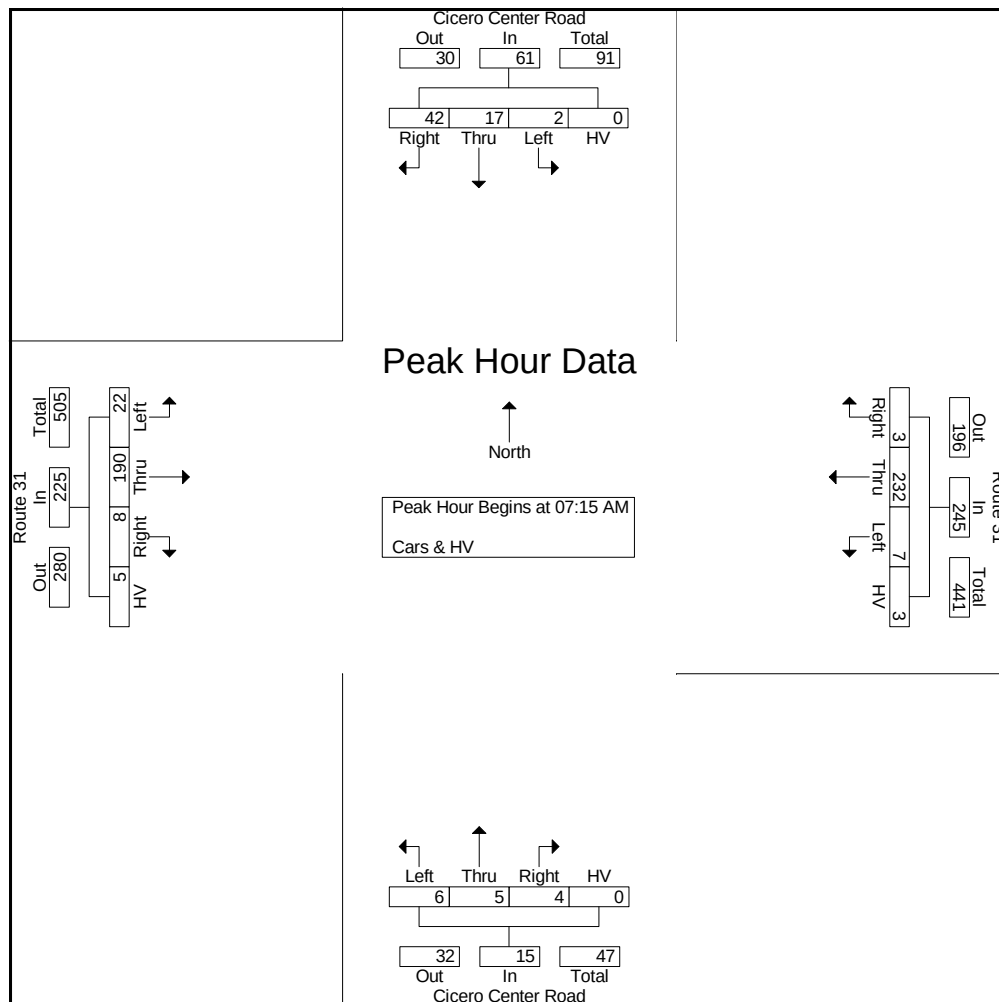
Groups Printed- Cars & HV

|             | Cicero Center Road<br>Southbound |      |      |     | Route 31<br>Westbound |      |      |     | Cicero Center Road<br>Northbound |      |      |    | Route 31<br>Eastbound |      |      |     |            |
|-------------|----------------------------------|------|------|-----|-----------------------|------|------|-----|----------------------------------|------|------|----|-----------------------|------|------|-----|------------|
| Start Time  | Right                            | Thru | Left | HV  | Right                 | Thru | Left | HV  | Right                            | Thru | Left | HV | Right                 | Thru | Left | HV  | Int. Total |
| 07:00 AM    | 11                               | 2    | 4    | 0   | 1                     | 49   | 2    | 0   | 0                                | 0    | 0    | 0  | 2                     | 31   | 1    | 0   | 103        |
| 07:15 AM    | 15                               | 5    | 1    | 0   | 0                     | 67   | 0    | 0   | 2                                | 2    | 0    | 0  | 2                     | 48   | 4    | 1   | 147        |
| 07:30 AM    | 9                                | 1    | 0    | 0   | 1                     | 58   | 2    | 0   | 0                                | 1    | 4    | 0  | 3                     | 46   | 6    | 0   | 131        |
| 07:45 AM    | 10                               | 7    | 1    | 0   | 2                     | 58   | 4    | 1   | 2                                | 1    | 2    | 0  | 2                     | 53   | 2    | 2   | 147        |
| Total       | 45                               | 15   | 6    | 0   | 4                     | 232  | 8    | 1   | 4                                | 4    | 6    | 0  | 9                     | 178  | 13   | 3   | 528        |
| 08:00 AM    | 8                                | 4    | 0    | 0   | 0                     | 49   | 1    | 2   | 0                                | 1    | 0    | 0  | 1                     | 43   | 10   | 2   | 121        |
| 08:15 AM    | 9                                | 2    | 0    | 0   | 3                     | 44   | 0    | 0   | 2                                | 1    | 2    | 0  | 1                     | 38   | 6    | 1   | 109        |
| 08:30 AM    | 6                                | 1    | 0    | 0   | 1                     | 57   | 1    | 0   | 0                                | 1    | 3    | 0  | 3                     | 47   | 8    | 0   | 128        |
| 08:45 AM    | 6                                | 3    | 0    | 0   | 0                     | 56   | 3    | 0   | 0                                | 2    | 2    | 0  | 3                     | 32   | 7    | 1   | 115        |
| Total       | 29                               | 10   | 0    | 0   | 4                     | 206  | 5    | 2   | 2                                | 5    | 7    | 0  | 8                     | 160  | 31   | 4   | 473        |
| 03:45 PM    | 0                                | 0    | 0    | 0   | 0                     | 0    | 1    | 0   | 0                                | 0    | 0    | 0  | 0                     | 0    | 0    | 0   | 1          |
| Total       | 0                                | 0    | 0    | 0   | 0                     | 0    | 1    | 0   | 0                                | 0    | 0    | 0  | 0                     | 0    | 0    | 0   | 1          |
| 04:00 PM    | 8                                | 4    | 2    | 0   | 5                     | 86   | 1    | 0   | 2                                | 5    | 4    | 0  | 5                     | 76   | 11   | 0   | 209        |
| 04:15 PM    | 2                                | 5    | 3    | 0   | 4                     | 80   | 1    | 1   | 1                                | 7    | 5    | 0  | 4                     | 86   | 16   | 0   | 215        |
| 04:30 PM    | 10                               | 0    | 1    | 0   | 4                     | 71   | 1    | 0   | 0                                | 9    | 4    | 0  | 6                     | 107  | 13   | 0   | 226        |
| 04:45 PM    | 6                                | 3    | 3    | 0   | 0                     | 79   | 1    | 0   | 2                                | 11   | 3    | 0  | 5                     | 113  | 15   | 0   | 241        |
| Total       | 26                               | 12   | 9    | 0   | 13                    | 316  | 4    | 1   | 5                                | 32   | 16   | 0  | 20                    | 382  | 55   | 0   | 891        |
| 05:00 PM    | 9                                | 2    | 3    | 0   | 0                     | 67   | 0    | 0   | 1                                | 10   | 4    | 0  | 5                     | 85   | 12   | 1   | 199        |
| 05:15 PM    | 4                                | 2    | 2    | 0   | 6                     | 89   | 3    | 0   | 2                                | 7    | 5    | 0  | 6                     | 78   | 11   | 0   | 215        |
| 05:30 PM    | 12                               | 4    | 2    | 1   | 4                     | 80   | 0    | 0   | 3                                | 4    | 3    | 0  | 4                     | 88   | 8    | 0   | 213        |
| 05:45 PM    | 4                                | 1    | 4    | 0   | 4                     | 71   | 1    | 0   | 4                                | 4    | 4    | 0  | 2                     | 71   | 11   | 0   | 181        |
| Total       | 29                               | 9    | 11   | 1   | 14                    | 307  | 4    | 0   | 10                               | 25   | 16   | 0  | 17                    | 322  | 42   | 1   | 808        |
| Grand Total | 129                              | 46   | 26   | 1   | 35                    | 1061 | 22   | 4   | 21                               | 66   | 45   | 0  | 54                    | 1042 | 141  | 8   | 2701       |
| Apprch %    | 63.9                             | 22.8 | 12.9 | 0.5 | 3.1                   | 94.6 | 2    | 0.4 | 15.9                             | 50   | 34.1 | 0  | 4.3                   | 83.7 | 11.3 | 0.6 |            |
| Total %     | 4.8                              | 1.7  | 1    | 0   | 1.3                   | 39.3 | 0.8  | 0.1 | 0.8                              | 2.4  | 1.7  | 0  | 2                     | 38.6 | 5.2  | 0.3 |            |



File Name : 5 - Route 31 @ Cicero Center - 5-12-22  
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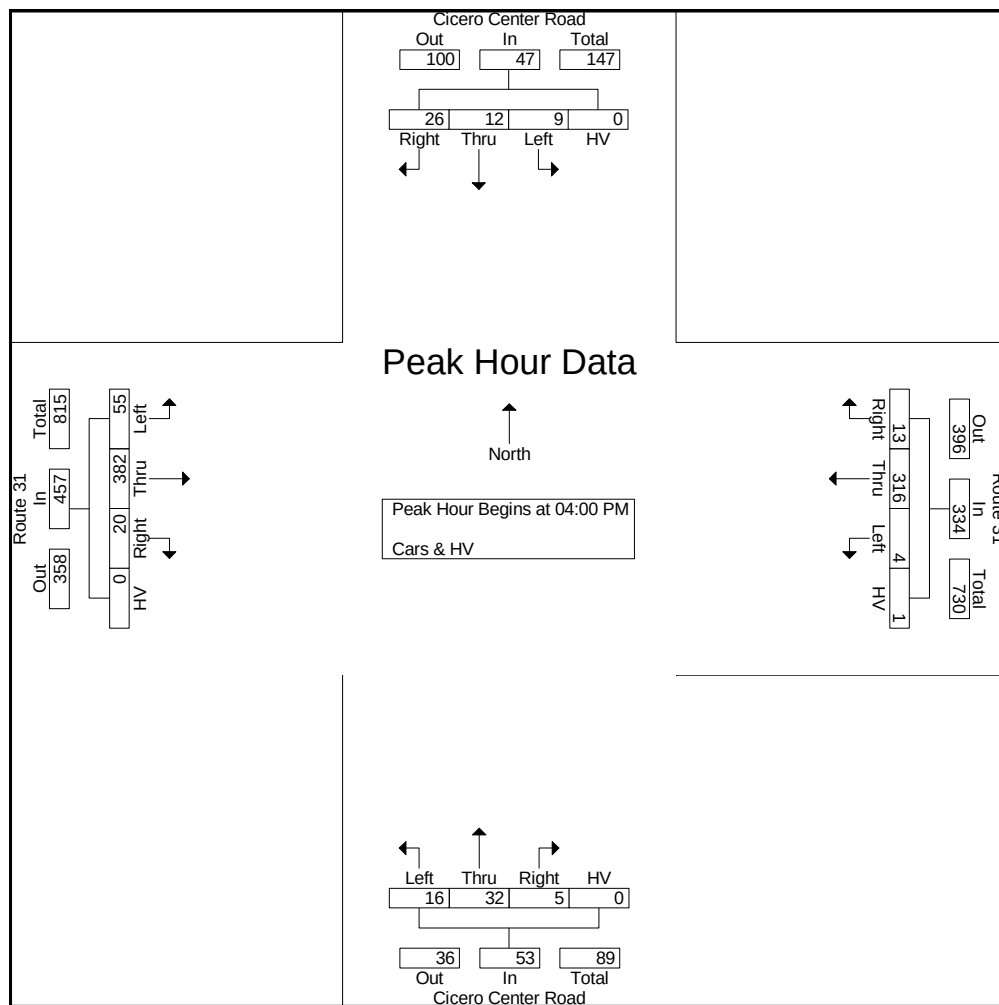
|                                                            | Cicero Center Road Southbound |      |      |      |            | Route 31 Westbound |      |      |      |            | Cicero Center Road Northbound |      |      |      |            | Route 31 Eastbound |      |      |      |            |            |
|------------------------------------------------------------|-------------------------------|------|------|------|------------|--------------------|------|------|------|------------|-------------------------------|------|------|------|------------|--------------------|------|------|------|------------|------------|
| Start Time                                                 | Right                         | Thru | Left | HV   | App. Total | Right              | Thru | Left | HV   | App. Total | Right                         | Thru | Left | HV   | App. Total | Right              | Thru | Left | HV   | App. Total | Int. Total |
| Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1 |                               |      |      |      |            |                    |      |      |      |            |                               |      |      |      |            |                    |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 07:15 AM       |                               |      |      |      |            |                    |      |      |      |            |                               |      |      |      |            |                    |      |      |      |            |            |
| 07:15 AM                                                   | 15                            | 5    | 1    | 0    | 21         | 0                  | 67   | 0    | 0    | 67         | 2                             | 2    | 0    | 0    | 4          | 2                  | 48   | 4    | 1    | 55         | 147        |
| 07:30 AM                                                   | 9                             | 1    | 0    | 0    | 10         | 1                  | 58   | 2    | 0    | 61         | 0                             | 1    | 4    | 0    | 5          | 3                  | 46   | 6    | 0    | 55         | 131        |
| 07:45 AM                                                   | 10                            | 7    | 1    | 0    | 18         | 2                  | 58   | 4    | 1    | 65         | 2                             | 1    | 2    | 0    | 5          | 2                  | 53   | 2    | 2    | 59         | 147        |
| 08:00 AM                                                   | 8                             | 4    | 0    | 0    | 12         | 0                  | 49   | 1    | 2    | 52         | 0                             | 1    | 0    | 0    | 1          | 1                  | 43   | 10   | 2    | 56         | 121        |
| Total Volume                                               | 42                            | 17   | 2    | 0    | 61         | 3                  | 232  | 7    | 3    | 245        | 4                             | 5    | 6    | 0    | 15         | 8                  | 190  | 22   | 5    | 225        | 546        |
| % App. Total                                               | 68.9                          | 27.9 | 3.3  | 0    |            | 1.2                | 94.7 | 2.9  | 1.2  |            | 26.7                          | 33.3 | 40   | 0    |            | 3.6                | 84.4 | 9.8  | 2.2  |            |            |
| PHF                                                        | .700                          | .607 | .500 | .000 | .726       | .375               | .866 | .438 | .375 | .914       | .500                          | .625 | .375 | .000 | .750       | .667               | .896 | .550 | .625 | .953       | .929       |





File Name : 5 - Route 31 @ Cicero Center - 5-12-22  
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|                                                            | Cicero Center Road Southbound |      |      |      |            | Route 31 Westbound |      |      |      |            | Cicero Center Road Northbound |      |      |      |            | Route 31 Eastbound |      |      |      |            |            |
|------------------------------------------------------------|-------------------------------|------|------|------|------------|--------------------|------|------|------|------------|-------------------------------|------|------|------|------------|--------------------|------|------|------|------------|------------|
| Start Time                                                 | Right                         | Thru | Left | HV   | App. Total | Right              | Thru | Left | HV   | App. Total | Right                         | Thru | Left | HV   | App. Total | Right              | Thru | Left | HV   | App. Total | Int. Total |
| Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1 |                               |      |      |      |            |                    |      |      |      |            |                               |      |      |      |            |                    |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 04:00 PM       |                               |      |      |      |            |                    |      |      |      |            |                               |      |      |      |            |                    |      |      |      |            |            |
| 04:00 PM                                                   | 8                             | 4    | 2    | 0    | 14         | 5                  | 86   | 1    | 0    | 92         | 2                             | 5    | 4    | 0    | 11         | 5                  | 76   | 11   | 0    | 92         | 209        |
| 04:15 PM                                                   | 2                             | 5    | 3    | 0    | 10         | 4                  | 80   | 1    | 1    | 86         | 1                             | 7    | 5    | 0    | 13         | 4                  | 86   | 16   | 0    | 106        | 215        |
| 04:30 PM                                                   | 10                            | 0    | 1    | 0    | 11         | 4                  | 71   | 1    | 0    | 76         | 0                             | 9    | 4    | 0    | 13         | 6                  | 107  | 13   | 0    | 126        | 226        |
| 04:45 PM                                                   | 6                             | 3    | 3    | 0    | 12         | 0                  | 79   | 1    | 0    | 80         | 2                             | 11   | 3    | 0    | 16         | 5                  | 113  | 15   | 0    | 133        | 241        |
| Total Volume                                               | 26                            | 12   | 9    | 0    | 47         | 13                 | 316  | 4    | 1    | 334        | 5                             | 32   | 16   | 0    | 53         | 20                 | 382  | 55   | 0    | 457        | 891        |
| % App. Total                                               | 55.3                          | 25.5 | 19.1 | 0    |            | 3.9                | 94.6 | 1.2  | 0.3  |            | 9.4                           | 60.4 | 30.2 | 0    |            | 4.4                | 83.6 | 12   | 0    |            |            |
| PHF                                                        | .650                          | .600 | .750 | .000 | .839       | .650               | .919 | 1.00 | .250 | .908       | .625                          | .727 | .800 | .000 | .828       | .833               | .845 | .859 | .000 | .859       | .924       |





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### Groups Printed- Peds

[illegible]



File Name : 5 - Route 31 @ Cicero Center - 5-19-22

Site Code : 00000005

Start Date : 5/19/2022

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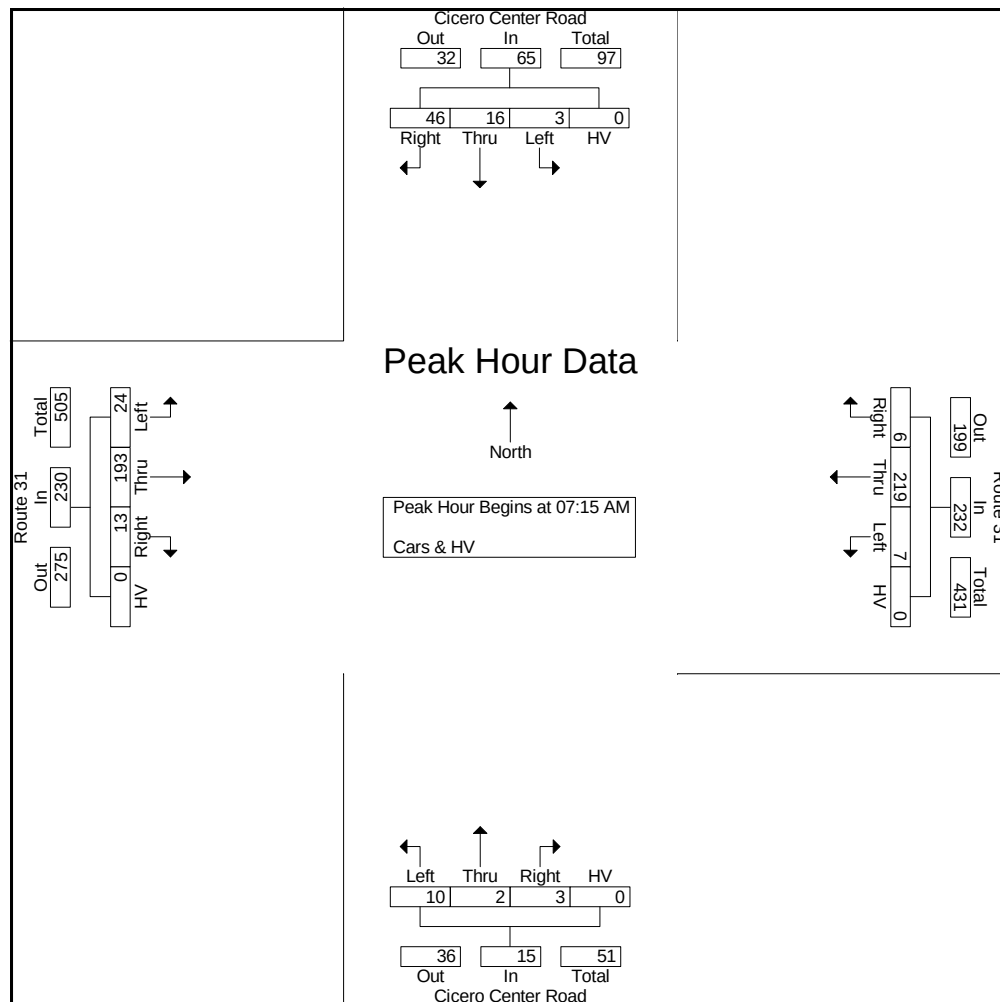
Groups Printed- Cars & HV

|             | Cicero Center Road<br>Southbound |      |      |    | Route 31<br>Westbound |      |      |    | Cicero Center Road<br>Northbound |      |      |    | Route 31<br>Eastbound |      |      |    |            |
|-------------|----------------------------------|------|------|----|-----------------------|------|------|----|----------------------------------|------|------|----|-----------------------|------|------|----|------------|
| Start Time  | Right                            | Thru | Left | HV | Right                 | Thru | Left | HV | Right                            | Thru | Left | HV | Right                 | Thru | Left | HV | Int. Total |
| 07:00 AM    | 12                               | 4    | 3    | 0  | 3                     | 44   | 3    | 0  | 0                                | 1    | 0    | 0  | 2                     | 35   | 3    | 0  | 110        |
| 07:15 AM    | 15                               | 1    | 3    | 0  | 1                     | 58   | 3    | 0  | 0                                | 0    | 0    | 0  | 1                     | 49   | 6    | 0  | 137        |
| 07:30 AM    | 13                               | 10   | 0    | 0  | 1                     | 63   | 1    | 0  | 2                                | 1    | 4    | 0  | 4                     | 41   | 4    | 0  | 144        |
| 07:45 AM    | 10                               | 2    | 0    | 0  | 3                     | 54   | 3    | 0  | 1                                | 1    | 4    | 0  | 5                     | 52   | 4    | 0  | 139        |
| Total       | 50                               | 17   | 6    | 0  | 8                     | 219  | 10   | 0  | 3                                | 3    | 8    | 0  | 12                    | 177  | 17   | 0  | 530        |
| 08:00 AM    | 8                                | 3    | 0    | 0  | 1                     | 44   | 0    | 0  | 0                                | 0    | 2    | 0  | 3                     | 51   | 10   | 0  | 122        |
| 08:15 AM    | 3                                | 3    | 2    | 0  | 0                     | 37   | 0    | 0  | 1                                | 3    | 0    | 0  | 3                     | 36   | 6    | 0  | 94         |
| 08:30 AM    | 6                                | 5    | 0    | 0  | 1                     | 40   | 0    | 0  | 0                                | 3    | 3    | 0  | 2                     | 45   | 12   | 0  | 117        |
| 08:45 AM    | 6                                | 4    | 2    | 0  | 0                     | 61   | 5    | 0  | 1                                | 3    | 3    | 0  | 6                     | 48   | 2    | 0  | 141        |
| Total       | 23                               | 15   | 4    | 0  | 2                     | 182  | 5    | 0  | 2                                | 9    | 8    | 0  | 14                    | 180  | 30   | 0  | 474        |
| 04:00 PM    | 8                                | 4    | 2    | 0  | 3                     | 86   | 3    | 0  | 2                                | 3    | 2    | 0  | 6                     | 75   | 10   | 0  | 204        |
| 04:15 PM    | 4                                | 6    | 3    | 0  | 2                     | 61   | 1    | 0  | 4                                | 7    | 4    | 0  | 7                     | 87   | 16   | 0  | 202        |
| 04:30 PM    | 7                                | 6    | 4    | 0  | 2                     | 87   | 1    | 0  | 4                                | 6    | 6    | 0  | 5                     | 99   | 17   | 0  | 244        |
| 04:45 PM    | 9                                | 1    | 3    | 0  | 1                     | 90   | 2    | 0  | 0                                | 4    | 2    | 0  | 3                     | 99   | 12   | 0  | 226        |
| Total       | 28                               | 17   | 12   | 0  | 8                     | 324  | 7    | 0  | 10                               | 20   | 14   | 0  | 21                    | 360  | 55   | 0  | 876        |
| 05:00 PM    | 10                               | 1    | 1    | 0  | 4                     | 80   | 1    | 0  | 3                                | 12   | 5    | 0  | 4                     | 75   | 14   | 0  | 210        |
| 05:15 PM    | 8                                | 2    | 3    | 0  | 5                     | 89   | 2    | 0  | 1                                | 5    | 2    | 0  | 6                     | 101  | 18   | 0  | 242        |
| 05:30 PM    | 7                                | 3    | 1    | 0  | 5                     | 67   | 0    | 0  | 0                                | 4    | 5    | 0  | 1                     | 92   | 16   | 0  | 201        |
| 05:45 PM    | 6                                | 2    | 1    | 0  | 3                     | 68   | 0    | 0  | 0                                | 2    | 4    | 0  | 8                     | 84   | 13   | 0  | 191        |
| Total       | 31                               | 8    | 6    | 0  | 17                    | 304  | 3    | 0  | 4                                | 23   | 16   | 0  | 19                    | 352  | 61   | 0  | 844        |
| Grand Total | 132                              | 57   | 28   | 0  | 35                    | 1029 | 25   | 0  | 19                               | 55   | 46   | 0  | 66                    | 1069 | 163  | 0  | 2724       |
| Apprch %    | 60.8                             | 26.3 | 12.9 | 0  | 3.2                   | 94.5 | 2.3  | 0  | 15.8                             | 45.8 | 38.3 | 0  | 5.1                   | 82.4 | 12.6 | 0  |            |
| Total %     | 4.8                              | 2.1  | 1    | 0  | 1.3                   | 37.8 | 0.9  | 0  | 0.7                              | 2    | 1.7  | 0  | 2.4                   | 39.2 | 6    | 0  |            |



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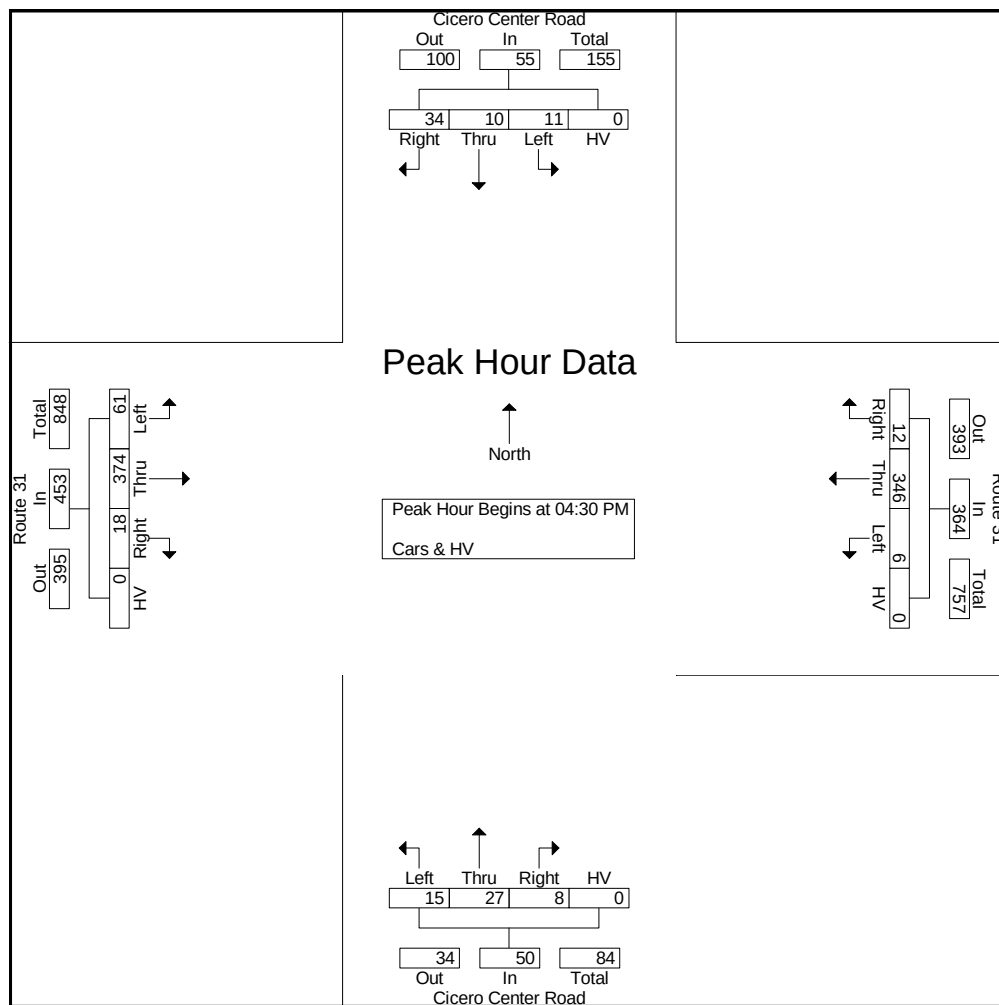
|                                                            | Cicero Center Road Southbound |      |      |      |            | Route 31 Westbound |      |      |      |            | Cicero Center Road Northbound |      |      |      |            | Route 31 Eastbound |      |      |      |            |            |
|------------------------------------------------------------|-------------------------------|------|------|------|------------|--------------------|------|------|------|------------|-------------------------------|------|------|------|------------|--------------------|------|------|------|------------|------------|
| Start Time                                                 | Right                         | Thru | Left | HV   | App. Total | Right              | Thru | Left | HV   | App. Total | Right                         | Thru | Left | HV   | App. Total | Right              | Thru | Left | HV   | App. Total | Int. Total |
| Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1 |                               |      |      |      |            |                    |      |      |      |            |                               |      |      |      |            |                    |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 07:15 AM       |                               |      |      |      |            |                    |      |      |      |            |                               |      |      |      |            |                    |      |      |      |            |            |
| 07:15 AM                                                   | 15                            | 1    | 3    | 0    | 19         | 1                  | 58   | 3    | 0    | 62         | 0                             | 0    | 0    | 0    | 0          | 1                  | 49   | 6    | 0    | 56         | 137        |
| 07:30 AM                                                   | 13                            | 10   | 0    | 0    | 23         | 1                  | 63   | 1    | 0    | 65         | 2                             | 1    | 4    | 0    | 7          | 4                  | 41   | 4    | 0    | 49         | 144        |
| 07:45 AM                                                   | 10                            | 2    | 0    | 0    | 12         | 3                  | 54   | 3    | 0    | 60         | 1                             | 1    | 4    | 0    | 6          | 5                  | 52   | 4    | 0    | 61         | 139        |
| 08:00 AM                                                   | 8                             | 3    | 0    | 0    | 11         | 1                  | 44   | 0    | 0    | 45         | 0                             | 0    | 2    | 0    | 2          | 3                  | 51   | 10   | 0    | 64         | 122        |
| Total Volume                                               | 46                            | 16   | 3    | 0    | 65         | 6                  | 219  | 7    | 0    | 232        | 3                             | 2    | 10   | 0    | 15         | 13                 | 193  | 24   | 0    | 230        | 542        |
| % App. Total                                               | 70.8                          | 24.6 | 4.6  | 0    |            | 2.6                | 94.4 | 3    | 0    |            | 20                            | 13.3 | 66.7 | 0    |            | 5.7                | 83.9 | 10.4 | 0    |            |            |
| PHF                                                        | .767                          | .400 | .250 | .000 | .707       | .500               | .869 | .583 | .000 | .892       | .375                          | .500 | .625 | .000 | .536       | .650               | .928 | .600 | .000 | .898       | .941       |





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|                                                            | Cicero Center Road Southbound |      |      |      |            | Route 31 Westbound |      |      |      |            | Cicero Center Road Northbound |      |      |      |            | Route 31 Eastbound |      |      |      |            |            |
|------------------------------------------------------------|-------------------------------|------|------|------|------------|--------------------|------|------|------|------------|-------------------------------|------|------|------|------------|--------------------|------|------|------|------------|------------|
| Start Time                                                 | Right                         | Thru | Left | HV   | App. Total | Right              | Thru | Left | HV   | App. Total | Right                         | Thru | Left | HV   | App. Total | Right              | Thru | Left | HV   | App. Total | Int. Total |
| Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1 |                               |      |      |      |            |                    |      |      |      |            |                               |      |      |      |            |                    |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 04:30 PM       |                               |      |      |      |            |                    |      |      |      |            |                               |      |      |      |            |                    |      |      |      |            |            |
| 04:30 PM                                                   | 7                             | 6    | 4    | 0    | 17         | 2                  | 87   | 1    | 0    | 90         | 4                             | 6    | 6    | 0    | 16         | 5                  | 99   | 17   | 0    | 121        | 244        |
| 04:45 PM                                                   | 9                             | 1    | 3    | 0    | 13         | 1                  | 90   | 2    | 0    | 93         | 0                             | 4    | 2    | 0    | 6          | 3                  | 99   | 12   | 0    | 114        | 226        |
| 05:00 PM                                                   | 10                            | 1    | 1    | 0    | 12         | 4                  | 80   | 1    | 0    | 85         | 3                             | 12   | 5    | 0    | 20         | 4                  | 75   | 14   | 0    | 93         | 210        |
| 05:15 PM                                                   | 8                             | 2    | 3    | 0    | 13         | 5                  | 89   | 2    | 0    | 96         | 1                             | 5    | 2    | 0    | 8          | 6                  | 101  | 18   | 0    | 125        | 242        |
| Total Volume                                               | 34                            | 10   | 11   | 0    | 55         | 12                 | 346  | 6    | 0    | 364        | 8                             | 27   | 15   | 0    | 50         | 18                 | 374  | 61   | 0    | 453        | 922        |
| % App. Total                                               | 61.8                          | 18.2 | 20   | 0    |            | 3.3                | 95.1 | 1.6  | 0    |            | 16                            | 54   | 30   | 0    |            | 4                  | 82.6 | 13.5 | 0    |            |            |
| PHF                                                        | .850                          | .417 | .688 | .000 | .809       | .600               | .961 | .750 | .000 | .948       | .500                          | .563 | .625 | .000 | .625       | .750               | .926 | .847 | .000 | .906       | .945       |





File Name : 5 - Route 31 @ Cicero Center - 5-19-22

Site Code : 00000005

Start Date : 5/19/2022

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Groups Printed- Peds

|             | Cicero Center Road<br>Southbound |      |      |      | Route 31<br>Westbound |      |      |      | Cicero Center Road<br>Northbound |      |      |      | Route 31<br>Eastbound |      |      |      |            |
|-------------|----------------------------------|------|------|------|-----------------------|------|------|------|----------------------------------|------|------|------|-----------------------|------|------|------|------------|
| Start Time  | Right                            | Thru | Left | Peds | Right                 | Thru | Left | Peds | Right                            | Thru | Left | Peds | Right                 | Thru | Left | Peds | Int. Total |
| 07:00 AM    | 0                                | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 0                                | 0    | 0    | 0    | 0                     | 4    | 0    | 0    | 4          |
| 07:15 AM    | 0                                | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 0                                | 0    | 0    | 0    | 0                     | 2    | 0    | 0    | 2          |
| 07:30 AM    | 0                                | 0    | 0    | 0    | 0                     | 1    | 0    | 0    | 0                                | 0    | 0    | 0    | 0                     | 2    | 0    | 0    | 3          |
| Total       | 0                                | 0    | 0    | 0    | 0                     | 1    | 0    | 0    | 0                                | 0    | 0    | 0    | 0                     | 8    | 0    | 0    | 9          |
| 08:00 AM    | 0                                | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 0                                | 0    | 0    | 0    | 0                     | 2    | 0    | 0    | 2          |
| 08:15 AM    | 0                                | 0    | 0    | 0    | 0                     | 2    | 0    | 0    | 0                                | 0    | 0    | 0    | 0                     | 2    | 0    | 0    | 4          |
| 08:30 AM    | 0                                | 0    | 0    | 0    | 0                     | 1    | 0    | 0    | 0                                | 0    | 0    | 0    | 0                     | 2    | 0    | 0    | 3          |
| 08:45 AM    | 0                                | 0    | 0    | 0    | 0                     | 2    | 0    | 0    | 0                                | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 2          |
| Total       | 0                                | 0    | 0    | 0    | 0                     | 5    | 0    | 0    | 0                                | 0    | 0    | 0    | 0                     | 6    | 0    | 0    | 11         |
| 04:00 PM    | 0                                | 0    | 0    | 0    | 0                     | 1    | 0    | 0    | 0                                | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 1          |
| 04:15 PM    | 0                                | 0    | 0    | 0    | 0                     | 2    | 0    | 0    | 0                                | 0    | 0    | 0    | 0                     | 1    | 1    | 0    | 4          |
| 04:45 PM    | 0                                | 0    | 0    | 0    | 0                     | 1    | 0    | 0    | 0                                | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 1          |
| Total       | 0                                | 0    | 0    | 0    | 0                     | 4    | 0    | 0    | 0                                | 0    | 0    | 0    | 0                     | 1    | 1    | 0    | 6          |
| 05:00 PM    | 0                                | 0    | 0    | 0    | 0                     | 3    | 0    | 0    | 0                                | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 3          |
| 05:15 PM    | 0                                | 0    | 0    | 0    | 0                     | 1    | 0    | 0    | 0                                | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 1          |
| 05:45 PM    | 0                                | 0    | 0    | 0    | 0                     | 1    | 0    | 0    | 0                                | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 1          |
| Total       | 0                                | 0    | 0    | 0    | 0                     | 5    | 0    | 0    | 0                                | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 5          |
| Grand Total | 0                                | 0    | 0    | 0    | 0                     | 15   | 0    | 0    | 0                                | 0    | 0    | 0    | 0                     | 15   | 1    | 0    | 31         |
| Apprch %    | 0                                | 0    | 0    | 0    | 0                     | 100  | 0    | 0    | 0                                | 0    | 0    | 0    | 0                     | 93.8 | 6.2  | 0    |            |
| Total %     | 0                                | 0    | 0    | 0    | 0                     | 48.4 | 0    | 0    | 0                                | 0    | 0    | 0    | 0                     | 48.4 | 3.2  | 0    |            |



File Name : 5 - Route 31 @ Cicero Center - 5-21-22

Site Code : 00000005

Start Date : 5/21/2022

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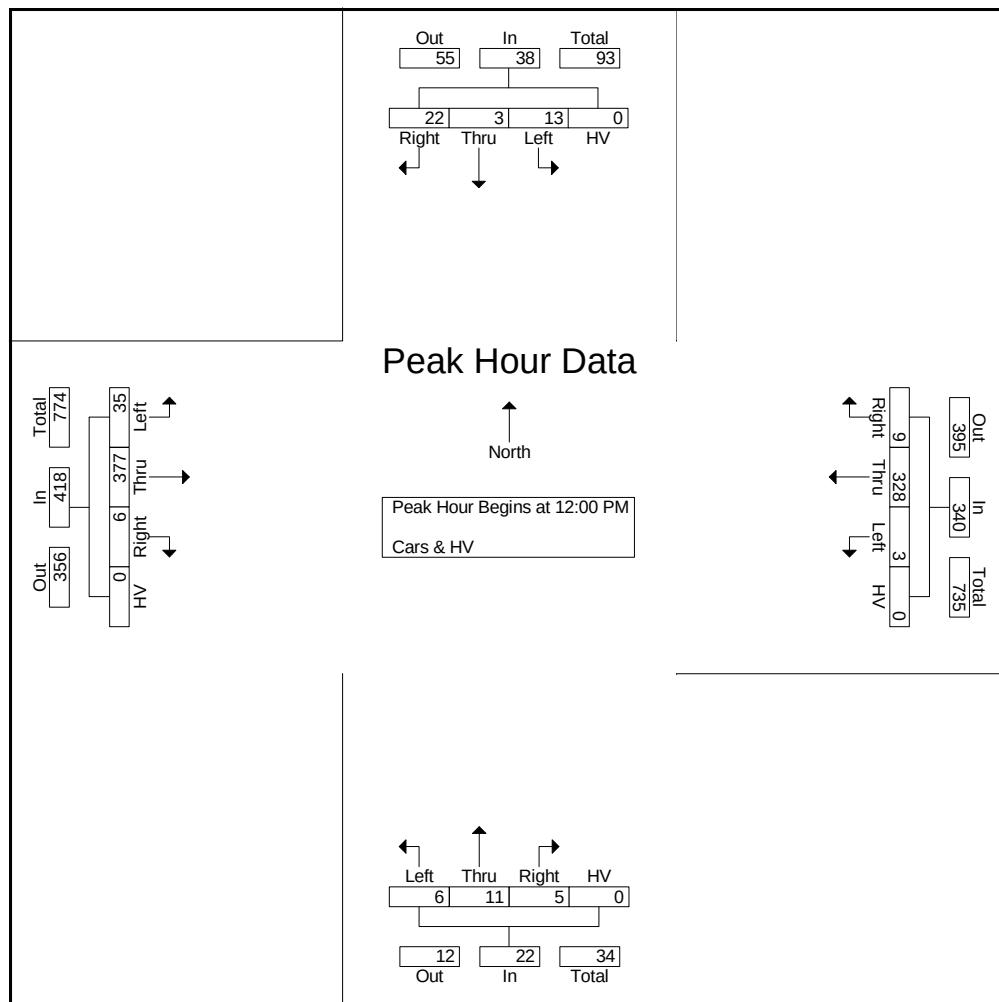
Groups Printed- Cars & HV

|             | Southbound |      |      |    | Westbound |      |      |    | Northbound |      |      |    | Eastbound |      |      |    |            |
|-------------|------------|------|------|----|-----------|------|------|----|------------|------|------|----|-----------|------|------|----|------------|
| Start Time  | Right      | Thru | Left | HV | Right     | Thru | Left | HV | Right      | Thru | Left | HV | Right     | Thru | Left | HV | Int. Total |
| 11:00 AM    | 8          | 3    | 3    | 0  | 2         | 60   | 2    | 0  | 0          | 1    | 4    | 0  | 3         | 82   | 6    | 0  | 174        |
| 11:15 AM    | 11         | 2    | 2    | 0  | 1         | 72   | 1    | 0  | 0          | 3    | 2    | 0  | 1         | 84   | 5    | 0  | 184        |
| 11:30 AM    | 13         | 0    | 1    | 0  | 2         | 68   | 0    | 0  | 1          | 5    | 0    | 0  | 3         | 93   | 9    | 0  | 195        |
| 11:45 AM    | 7          | 0    | 4    | 0  | 0         | 84   | 0    | 0  | 1          | 0    | 2    | 0  | 3         | 84   | 13   | 0  | 198        |
| Total       | 39         | 5    | 10   | 0  | 5         | 284  | 3    | 0  | 2          | 9    | 8    | 0  | 10        | 343  | 33   | 0  | 751        |
| 12:00 PM    | 4          | 0    | 3    | 0  | 2         | 95   | 1    | 0  | 1          | 2    | 2    | 0  | 2         | 97   | 11   | 0  | 220        |
| 12:15 PM    | 6          | 1    | 2    | 0  | 1         | 69   | 1    | 0  | 2          | 3    | 2    | 0  | 1         | 101  | 8    | 0  | 197        |
| 12:30 PM    | 5          | 1    | 4    | 0  | 0         | 80   | 1    | 0  | 1          | 1    | 0    | 0  | 2         | 85   | 11   | 0  | 191        |
| 12:45 PM    | 7          | 1    | 4    | 0  | 6         | 84   | 0    | 0  | 1          | 5    | 2    | 0  | 1         | 94   | 5    | 0  | 210        |
| Total       | 22         | 3    | 13   | 0  | 9         | 328  | 3    | 0  | 5          | 11   | 6    | 0  | 6         | 377  | 35   | 0  | 818        |
| Grand Total | 61         | 8    | 23   | 0  | 14        | 612  | 6    | 0  | 7          | 20   | 14   | 0  | 16        | 720  | 68   | 0  | 1569       |
| Apprch %    | 66.3       | 8.7  | 25   | 0  | 2.2       | 96.8 | 0.9  | 0  | 17.1       | 48.8 | 34.1 | 0  | 2         | 89.6 | 8.5  | 0  |            |
| Total %     | 3.9        | 0.5  | 1.5  | 0  | 0.9       | 39   | 0.4  | 0  | 0.4        | 1.3  | 0.9  | 0  | 1         | 45.9 | 4.3  | 0  |            |



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|                                                            | Southbound |      |      |      |            | Westbound |      |      |      |            | Northbound |      |      |      |            | Eastbound |      |      |      |            |            |
|------------------------------------------------------------|------------|------|------|------|------------|-----------|------|------|------|------------|------------|------|------|------|------------|-----------|------|------|------|------------|------------|
| Start Time                                                 | Right      | Thru | Left | HV   | App. Total | Right     | Thru | Left | HV   | App. Total | Right      | Thru | Left | HV   | App. Total | Right     | Thru | Left | HV   | App. Total | Int. Total |
| Peak Hour Analysis From 11:00 AM to 12:45 PM - Peak 1 of 1 |            |      |      |      |            |           |      |      |      |            |            |      |      |      |            |           |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 12:00 PM       |            |      |      |      |            |           |      |      |      |            |            |      |      |      |            |           |      |      |      |            |            |
| 12:00 PM                                                   | 4          | 0    | 3    | 0    | 7          | 2         | 95   | 1    | 0    | 98         | 1          | 2    | 2    | 0    | 5          | 2         | 97   | 11   | 0    | 110        | 220        |
| 12:15 PM                                                   | 6          | 1    | 2    | 0    | 9          | 1         | 69   | 1    | 0    | 71         | 2          | 3    | 2    | 0    | 7          | 1         | 101  | 8    | 0    | 110        | 197        |
| 12:30 PM                                                   | 5          | 1    | 4    | 0    | 10         | 0         | 80   | 1    | 0    | 81         | 1          | 1    | 0    | 0    | 2          | 2         | 85   | 11   | 0    | 98         | 191        |
| 12:45 PM                                                   | 7          | 1    | 4    | 0    | 12         | 6         | 84   | 0    | 0    | 90         | 1          | 5    | 2    | 0    | 8          | 1         | 94   | 5    | 0    | 100        | 210        |
| Total Volume                                               | 22         | 3    | 13   | 0    | 38         | 9         | 328  | 3    | 0    | 340        | 5          | 11   | 6    | 0    | 22         | 6         | 377  | 35   | 0    | 418        | 818        |
| % App. Total                                               | 57.9       | 7.9  | 34.2 | 0    |            | 2.6       | 96.5 | 0.9  | 0    |            | 22.7       | 50   | 27.3 | 0    |            | 1.4       | 90.2 | 8.4  | 0    |            |            |
| PHF                                                        | .786       | .750 | .813 | .000 | .792       | .375      | .863 | .750 | .000 | .867       | .625       | .550 | .750 | .000 | .688       | .750      | .933 | .795 | .000 | .950       | .930       |





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Groups Printed- Peds

|             | Southbound |      |      |      | Westbound |      |      |      | Northbound |      |      |      | Eastbound |      |      |      |            |
|-------------|------------|------|------|------|-----------|------|------|------|------------|------|------|------|-----------|------|------|------|------------|
| Start Time  | Right      | Thru | Left | Peds | Right     | Thru | Left | Peds | Right      | Thru | Left | Peds | Right     | Thru | Left | Peds | Int. Total |
| 11:15 AM    | 0          | 0    | 1    | 0    | 0         | 0    | 0    | 0    | 0          | 0    | 0    | 0    | 0         | 0    | 0    | 0    | 1          |
| Total       | 0          | 0    | 1    | 0    | 0         | 0    | 0    | 0    | 0          | 0    | 0    | 0    | 0         | 0    | 0    | 0    | 1          |
| 12:15 PM    | 0          | 0    | 0    | 0    | 0         | 0    | 0    | 0    | 0          | 0    | 0    | 0    | 0         | 1    | 0    | 0    | 1          |
| Total       | 0          | 0    | 0    | 0    | 0         | 0    | 0    | 0    | 0          | 0    | 0    | 0    | 0         | 1    | 0    | 0    | 1          |
| Grand Total | 0          | 0    | 1    | 0    | 0         | 0    | 0    | 0    | 0          | 0    | 0    | 0    | 0         | 1    | 0    | 0    | 2          |
| Apprch %    | 0          | 0    | 100  | 0    | 0         | 0    | 0    | 0    | 0          | 0    | 0    | 0    | 0         | 100  | 0    | 0    |            |
| Total %     | 0          | 0    | 50   | 0    | 0         | 0    | 0    | 0    | 0          | 0    | 0    | 0    | 0         | 50   | 0    | 0    |            |



File Name : 6 - Route 31 @ South Bay - 5-11-22

Site Code : 00000006

Start Date : 5/11/2022

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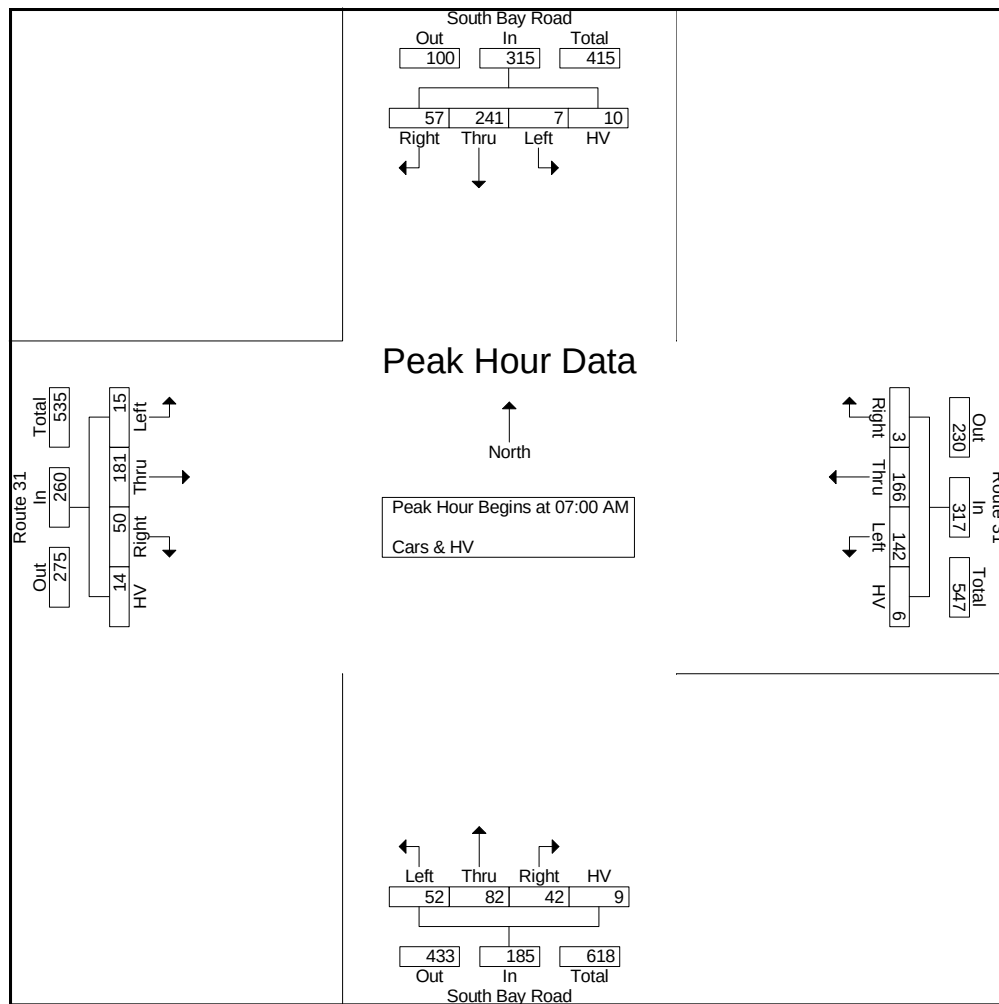
Groups Printed- Cars & HV

|             | South Bay Road<br>Southbound |      |      |     | Route 31<br>Westbound |      |      |     | South Bay Road<br>Northbound |      |      |     | Route 31<br>Eastbound |      |      |     |            |
|-------------|------------------------------|------|------|-----|-----------------------|------|------|-----|------------------------------|------|------|-----|-----------------------|------|------|-----|------------|
| Start Time  | Right                        | Thru | Left | HV  | Right                 | Thru | Left | HV  | Right                        | Thru | Left | HV  | Right                 | Thru | Left | HV  | Int. Total |
| 07:00 AM    | 16                           | 61   | 3    | 2   | 0                     | 53   | 27   | 3   | 4                            | 12   | 4    | 1   | 6                     | 46   | 1    | 5   | 244        |
| 07:15 AM    | 16                           | 69   | 2    | 0   | 0                     | 41   | 37   | 0   | 9                            | 17   | 27   | 5   | 17                    | 46   | 5    | 5   | 296        |
| 07:30 AM    | 15                           | 48   | 1    | 0   | 1                     | 29   | 41   | 1   | 14                           | 22   | 14   | 1   | 18                    | 46   | 6    | 2   | 259        |
| 07:45 AM    | 10                           | 63   | 1    | 8   | 2                     | 43   | 37   | 2   | 15                           | 31   | 7    | 2   | 9                     | 43   | 3    | 2   | 278        |
| Total       | 57                           | 241  | 7    | 10  | 3                     | 166  | 142  | 6   | 42                           | 82   | 52   | 9   | 50                    | 181  | 15   | 14  | 1077       |
| 08:00 AM    | 6                            | 58   | 2    | 1   | 0                     | 33   | 19   | 2   | 24                           | 24   | 7    | 5   | 10                    | 39   | 4    | 3   | 237        |
| 08:15 AM    | 6                            | 41   | 2    | 1   | 1                     | 40   | 22   | 1   | 20                           | 31   | 13   | 5   | 8                     | 51   | 6    | 4   | 252        |
| 08:30 AM    | 11                           | 45   | 1    | 2   | 2                     | 46   | 19   | 5   | 25                           | 21   | 5    | 5   | 5                     | 41   | 8    | 1   | 242        |
| 08:45 AM    | 5                            | 38   | 4    | 0   | 2                     | 54   | 21   | 0   | 10                           | 22   | 13   | 5   | 8                     | 43   | 4    | 3   | 232        |
| Total       | 28                           | 182  | 9    | 4   | 5                     | 173  | 81   | 8   | 79                           | 98   | 38   | 20  | 31                    | 174  | 22   | 11  | 963        |
| 04:00 PM    | 13                           | 42   | 2    | 3   | 1                     | 63   | 28   | 3   | 37                           | 48   | 16   | 0   | 20                    | 85   | 14   | 3   | 378        |
| 04:15 PM    | 9                            | 44   | 5    | 2   | 4                     | 79   | 30   | 2   | 38                           | 51   | 12   | 1   | 9                     | 82   | 8    | 3   | 379        |
| 04:30 PM    | 7                            | 42   | 2    | 2   | 0                     | 84   | 23   | 2   | 36                           | 55   | 12   | 0   | 21                    | 96   | 8    | 0   | 390        |
| 04:45 PM    | 9                            | 40   | 2    | 0   | 6                     | 67   | 20   | 1   | 36                           | 76   | 11   | 0   | 23                    | 78   | 21   | 0   | 390        |
| Total       | 38                           | 168  | 11   | 7   | 11                    | 293  | 101  | 8   | 147                          | 230  | 51   | 1   | 73                    | 341  | 51   | 6   | 1537       |
| 05:00 PM    | 9                            | 37   | 2    | 1   | 4                     | 69   | 27   | 1   | 35                           | 65   | 15   | 0   | 25                    | 100  | 10   | 0   | 400        |
| 05:15 PM    | 13                           | 39   | 3    | 0   | 2                     | 72   | 27   | 0   | 41                           | 84   | 17   | 1   | 17                    | 99   | 9    | 0   | 424        |
| 05:30 PM    | 13                           | 38   | 2    | 1   | 6                     | 70   | 22   | 0   | 42                           | 75   | 12   | 0   | 21                    | 98   | 10   | 0   | 410        |
| 05:45 PM    | 9                            | 35   | 2    | 1   | 1                     | 70   | 22   | 0   | 28                           | 42   | 14   | 0   | 16                    | 111  | 12   | 0   | 363        |
| Total       | 44                           | 149  | 9    | 3   | 13                    | 281  | 98   | 1   | 146                          | 266  | 58   | 1   | 79                    | 408  | 41   | 0   | 1597       |
| Grand Total | 167                          | 740  | 36   | 24  | 32                    | 913  | 422  | 23  | 414                          | 676  | 199  | 31  | 233                   | 1104 | 129  | 31  | 5174       |
| Apprch %    | 17.3                         | 76.5 | 3.7  | 2.5 | 2.3                   | 65.7 | 30.4 | 1.7 | 31.4                         | 51.2 | 15.1 | 2.3 | 15.6                  | 73.7 | 8.6  | 2.1 |            |
| Total %     | 3.2                          | 14.3 | 0.7  | 0.5 | 0.6                   | 17.6 | 8.2  | 0.4 | 8                            | 13.1 | 3.8  | 0.6 | 4.5                   | 21.3 | 2.5  | 0.6 |            |



File Name : 6 - Route 31 @ South Bay - 5-11-22  
 Site Code : 00000006  
 Start Date : 5/11/2022  
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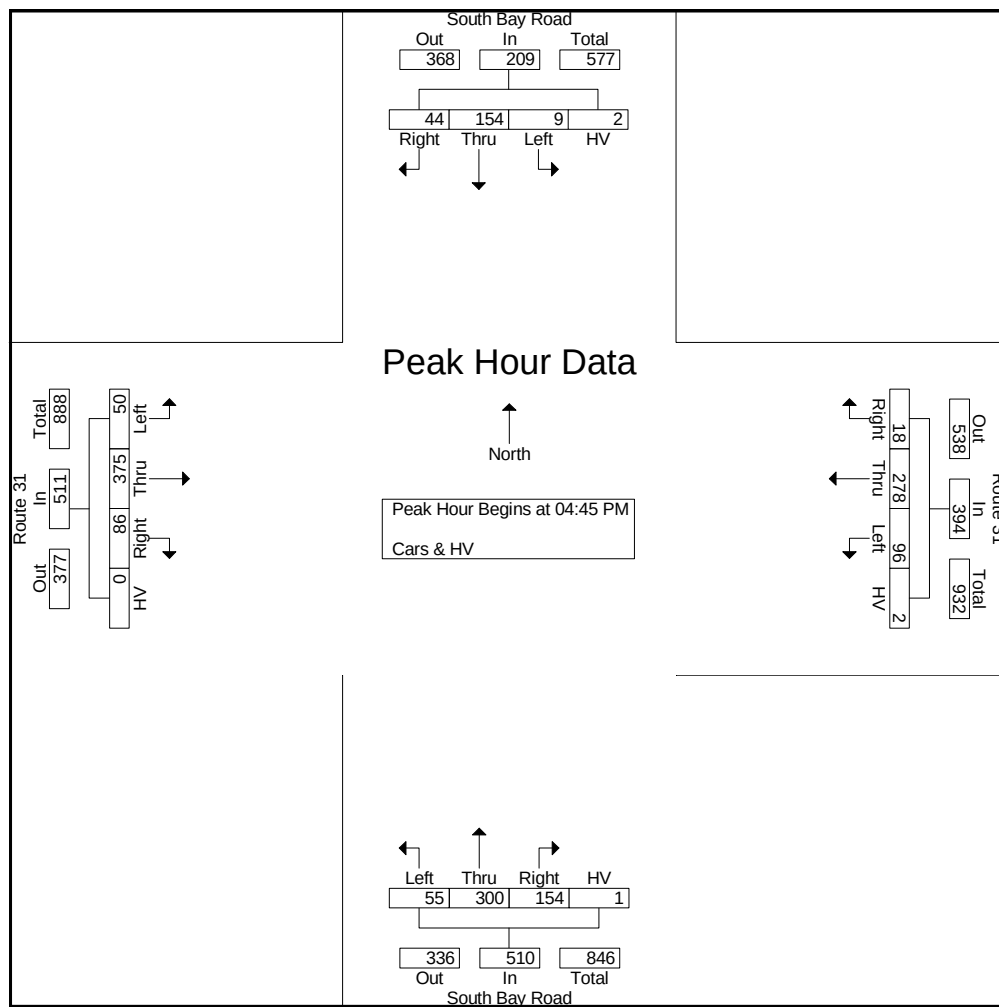
|                                                            | South Bay Road Southbound |      |      |      |            | Route 31 Westbound |      |      |      |            | South Bay Road Northbound |      |      |      |            | Route 31 Eastbound |      |      |      |            |            |
|------------------------------------------------------------|---------------------------|------|------|------|------------|--------------------|------|------|------|------------|---------------------------|------|------|------|------------|--------------------|------|------|------|------------|------------|
| Start Time                                                 | Right                     | Thru | Left | HV   | App. Total | Right              | Thru | Left | HV   | App. Total | Right                     | Thru | Left | HV   | App. Total | Right              | Thru | Left | HV   | App. Total | Int. Total |
| Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1 |                           |      |      |      |            |                    |      |      |      |            |                           |      |      |      |            |                    |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 07:00 AM       |                           |      |      |      |            |                    |      |      |      |            |                           |      |      |      |            |                    |      |      |      |            |            |
| 07:00 AM                                                   | 16                        | 61   | 3    | 2    | 82         | 0                  | 53   | 27   | 3    | 83         | 4                         | 12   | 4    | 1    | 21         | 6                  | 46   | 1    | 5    | 58         | 244        |
| 07:15 AM                                                   | 16                        | 69   | 2    | 0    | 87         | 0                  | 41   | 37   | 0    | 78         | 9                         | 17   | 27   | 5    | 58         | 17                 | 46   | 5    | 5    | 73         | 296        |
| 07:30 AM                                                   | 15                        | 48   | 1    | 0    | 64         | 1                  | 29   | 41   | 1    | 72         | 14                        | 22   | 14   | 1    | 51         | 18                 | 46   | 6    | 2    | 72         | 259        |
| 07:45 AM                                                   | 10                        | 63   | 1    | 8    | 82         | 2                  | 43   | 37   | 2    | 84         | 15                        | 31   | 7    | 2    | 55         | 9                  | 43   | 3    | 2    | 57         | 278        |
| Total Volume                                               | 57                        | 241  | 7    | 10   | 315        | 3                  | 166  | 142  | 6    | 317        | 42                        | 82   | 52   | 9    | 185        | 50                 | 181  | 15   | 14   | 260        | 1077       |
| % App. Total                                               | 18.1                      | 76.5 | 2.2  | 3.2  |            | 0.9                | 52.4 | 44.8 | 1.9  |            | 22.7                      | 44.3 | 28.1 | 4.9  |            | 19.2               | 69.6 | 5.8  | 5.4  |            |            |
| PHF                                                        | .891                      | .873 | .583 | .313 | .905       | .375               | .783 | .866 | .500 | .943       | .700                      | .661 | .481 | .450 | .797       | .694               | .984 | .625 | .700 | .890       | .910       |





File Name : 6 - Route 31 @ South Bay - 5-11-22  
 Site Code : 00000006  
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|                                                            | South Bay Road<br>Southbound |      |      |      |            | Route 31<br>Westbound |      |      |      |            | South Bay Road<br>Northbound |      |      |      |            | Route 31<br>Eastbound |      |      |      |            |            |
|------------------------------------------------------------|------------------------------|------|------|------|------------|-----------------------|------|------|------|------------|------------------------------|------|------|------|------------|-----------------------|------|------|------|------------|------------|
| Start<br>Time                                              | Right                        | Thru | Left | HV   | App. Total | Right                 | Thru | Left | HV   | App. Total | Right                        | Thru | Left | HV   | App. Total | Right                 | Thru | Left | HV   | App. Total | Int. Total |
| Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1 |                              |      |      |      |            |                       |      |      |      |            |                              |      |      |      |            |                       |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 04:45 PM       |                              |      |      |      |            |                       |      |      |      |            |                              |      |      |      |            |                       |      |      |      |            |            |
| 04:45 PM                                                   | 9                            | 40   | 2    | 0    | 51         | 6                     | 67   | 20   | 1    | 94         | 36                           | 76   | 11   | 0    | 123        | 23                    | 78   | 21   | 0    | 122        | 390        |
| 05:00 PM                                                   | 9                            | 37   | 2    | 1    | 49         | 4                     | 69   | 27   | 1    | 101        | 35                           | 65   | 15   | 0    | 115        | 25                    | 100  | 10   | 0    | 135        | 400        |
| 05:15 PM                                                   | 13                           | 39   | 3    | 0    | 55         | 2                     | 72   | 27   | 0    | 101        | 41                           | 84   | 17   | 1    | 143        | 17                    | 99   | 9    | 0    | 125        | 424        |
| 05:30 PM                                                   | 13                           | 38   | 2    | 1    | 54         | 6                     | 70   | 22   | 0    | 98         | 42                           | 75   | 12   | 0    | 129        | 21                    | 98   | 10   | 0    | 129        | 410        |
| Total Volume                                               | 44                           | 154  | 9    | 2    | 209        | 18                    | 278  | 96   | 2    | 394        | 154                          | 300  | 55   | 1    | 510        | 86                    | 375  | 50   | 0    | 511        | 1624       |
| % App. Total                                               | 21.1                         | 73.7 | 4.3  | 1    |            | 4.6                   | 70.6 | 24.4 | 0.5  |            | 30.2                         | 58.8 | 10.8 | 0.2  |            | 16.8                  | 73.4 | 9.8  | 0    |            |            |
| PHF                                                        | .846                         | .963 | .750 | .500 | .950       | .750                  | .965 | .889 | .500 | .975       | .917                         | .893 | .809 | .250 | .892       | .860                  | .938 | .595 | .000 | .946       | .958       |









File Name : 6 - Route 31 @ South Bay - 5-19-22

Site Code : 00000006

Start Date : 5/19/2022

Page No : 1

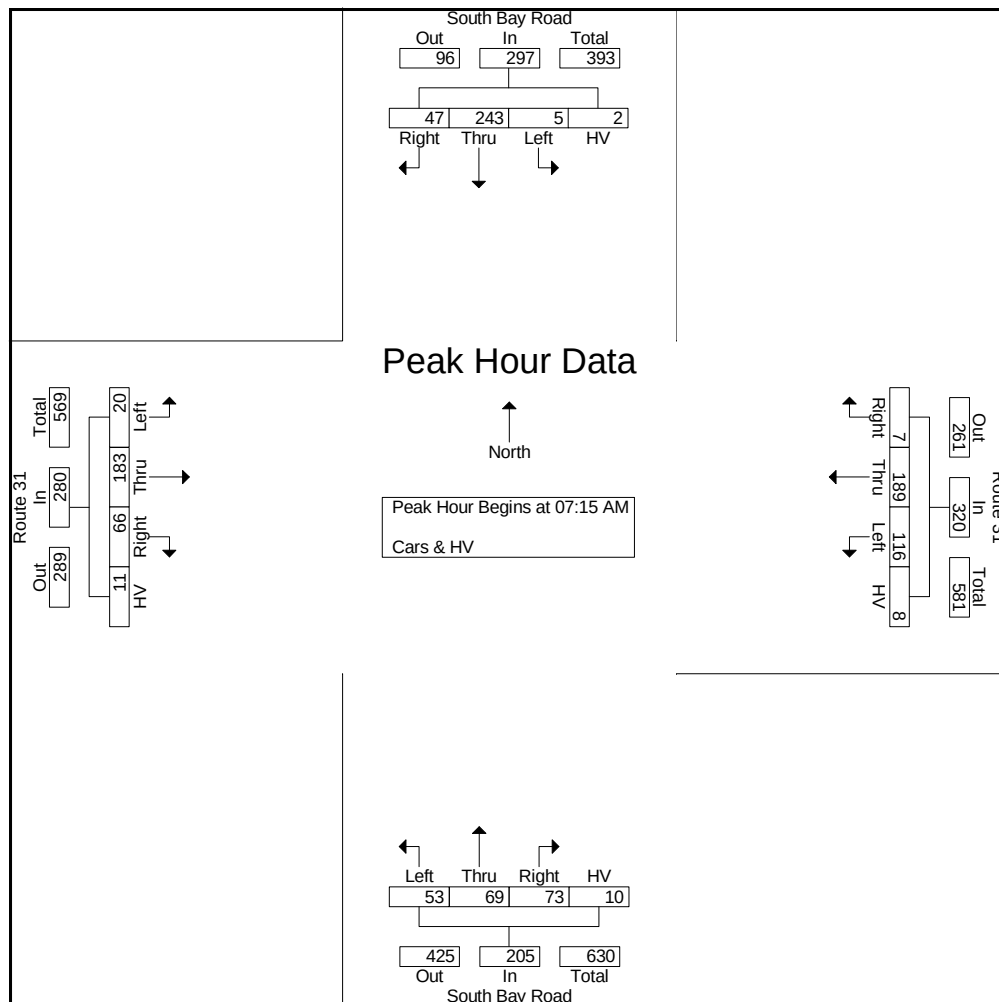
Groups Printed- Cars & HV

|             | South Bay Road<br>Southbound |      |      |     | Route 31<br>Westbound |      |      |     | South Bay Road<br>Northbound |      |      |     | Route 31<br>Eastbound |      |      |     |            |
|-------------|------------------------------|------|------|-----|-----------------------|------|------|-----|------------------------------|------|------|-----|-----------------------|------|------|-----|------------|
| Start Time  | Right                        | Thru | Left | HV  | Right                 | Thru | Left | HV  | Right                        | Thru | Left | HV  | Right                 | Thru | Left | HV  | Int. Total |
| 07:00 AM    | 13                           | 51   | 2    | 0   | 1                     | 42   | 23   | 0   | 8                            | 8    | 10   | 4   | 9                     | 39   | 3    | 2   | 215        |
| 07:15 AM    | 13                           | 55   | 0    | 1   | 2                     | 55   | 27   | 2   | 10                           | 10   | 19   | 3   | 21                    | 48   | 1    | 0   | 267        |
| 07:30 AM    | 18                           | 63   | 0    | 0   | 0                     | 54   | 32   | 3   | 24                           | 14   | 16   | 4   | 20                    | 45   | 5    | 2   | 300        |
| 07:45 AM    | 6                            | 74   | 4    | 0   | 3                     | 34   | 35   | 1   | 19                           | 20   | 7    | 2   | 19                    | 46   | 7    | 4   | 281        |
| Total       | 50                           | 243  | 6    | 1   | 6                     | 185  | 117  | 6   | 61                           | 52   | 52   | 13  | 69                    | 178  | 16   | 8   | 1063       |
| 08:00 AM    | 10                           | 51   | 1    | 1   | 2                     | 46   | 22   | 2   | 20                           | 25   | 11   | 1   | 6                     | 44   | 7    | 5   | 254        |
| 08:15 AM    | 9                            | 45   | 2    | 1   | 0                     | 21   | 19   | 6   | 22                           | 29   | 10   | 1   | 13                    | 26   | 5    | 5   | 214        |
| 08:30 AM    | 5                            | 37   | 4    | 0   | 0                     | 29   | 26   | 2   | 14                           | 24   | 7    | 5   | 8                     | 48   | 3    | 4   | 216        |
| 08:45 AM    | 8                            | 24   | 1    | 0   | 1                     | 50   | 21   | 1   | 14                           | 23   | 8    | 2   | 3                     | 41   | 10   | 2   | 209        |
| Total       | 32                           | 157  | 8    | 2   | 3                     | 146  | 88   | 11  | 70                           | 101  | 36   | 9   | 30                    | 159  | 25   | 16  | 893        |
| 04:00 PM    | 10                           | 49   | 1    | 6   | 3                     | 74   | 25   | 2   | 37                           | 49   | 15   | 1   | 30                    | 74   | 14   | 8   | 398        |
| 04:15 PM    | 11                           | 31   | 3    | 1   | 2                     | 59   | 25   | 9   | 46                           | 49   | 15   | 6   | 13                    | 99   | 14   | 6   | 389        |
| 04:30 PM    | 9                            | 31   | 2    | 1   | 4                     | 76   | 26   | 5   | 49                           | 54   | 16   | 3   | 20                    | 97   | 20   | 6   | 419        |
| 04:45 PM    | 7                            | 23   | 0    | 1   | 3                     | 84   | 35   | 8   | 29                           | 64   | 14   | 3   | 24                    | 69   | 10   | 4   | 378        |
| Total       | 37                           | 134  | 6    | 9   | 12                    | 293  | 111  | 24  | 161                          | 216  | 60   | 13  | 87                    | 339  | 58   | 24  | 1584       |
| 05:00 PM    | 13                           | 44   | 1    | 2   | 3                     | 57   | 29   | 6   | 39                           | 59   | 18   | 4   | 24                    | 88   | 10   | 6   | 403        |
| 05:15 PM    | 13                           | 30   | 1    | 1   | 4                     | 74   | 38   | 4   | 54                           | 70   | 22   | 4   | 30                    | 103  | 10   | 2   | 460        |
| 05:30 PM    | 13                           | 36   | 5    | 6   | 4                     | 67   | 19   | 4   | 51                           | 56   | 17   | 0   | 17                    | 91   | 14   | 1   | 401        |
| 05:45 PM    | 8                            | 36   | 2    | 1   | 1                     | 53   | 28   | 2   | 43                           | 48   | 10   | 3   | 13                    | 98   | 8    | 1   | 355        |
| Total       | 47                           | 146  | 9    | 10  | 12                    | 251  | 114  | 16  | 187                          | 233  | 67   | 11  | 84                    | 380  | 42   | 10  | 1619       |
| Grand Total | 166                          | 680  | 29   | 22  | 33                    | 875  | 430  | 57  | 479                          | 602  | 215  | 46  | 270                   | 1056 | 141  | 58  | 5159       |
| Apprch %    | 18.5                         | 75.8 | 3.2  | 2.5 | 2.4                   | 62.7 | 30.8 | 4.1 | 35.7                         | 44.9 | 16   | 3.4 | 17.7                  | 69.2 | 9.2  | 3.8 |            |
| Total %     | 3.2                          | 13.2 | 0.6  | 0.4 | 0.6                   | 17   | 8.3  | 1.1 | 9.3                          | 11.7 | 4.2  | 0.9 | 5.2                   | 20.5 | 2.7  | 1.1 |            |



File Name : 6 - Route 31 @ South Bay - 5-19-22  
 Site Code : 00000006  
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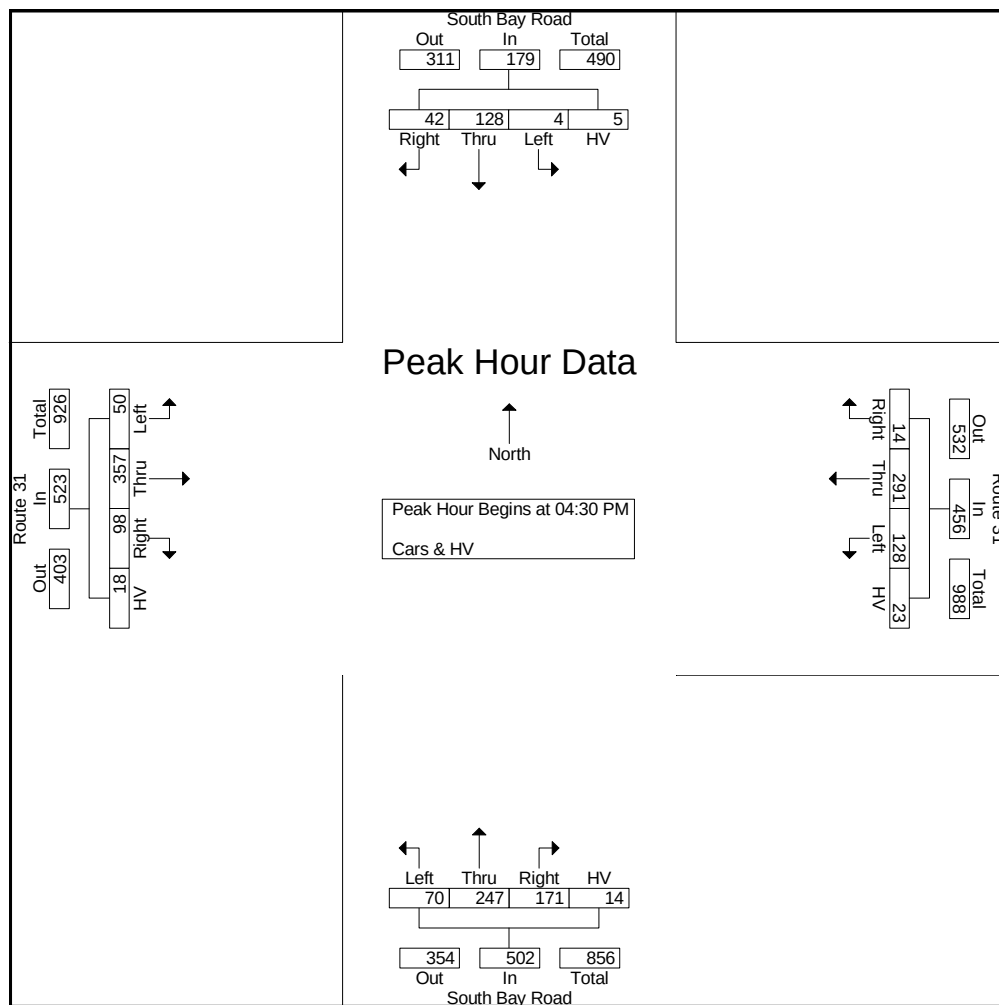
|                                                            | South Bay Road Southbound |      |      |      |            | Route 31 Westbound |      |      |      |            | South Bay Road Northbound |      |      |      |            | Route 31 Eastbound |      |      |      |            |            |
|------------------------------------------------------------|---------------------------|------|------|------|------------|--------------------|------|------|------|------------|---------------------------|------|------|------|------------|--------------------|------|------|------|------------|------------|
| Start Time                                                 | Right                     | Thru | Left | HV   | App. Total | Right              | Thru | Left | HV   | App. Total | Right                     | Thru | Left | HV   | App. Total | Right              | Thru | Left | HV   | App. Total | Int. Total |
| Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1 |                           |      |      |      |            |                    |      |      |      |            |                           |      |      |      |            |                    |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 07:15 AM       |                           |      |      |      |            |                    |      |      |      |            |                           |      |      |      |            |                    |      |      |      |            |            |
| 07:15 AM                                                   | 13                        | 55   | 0    | 1    | 69         | 2                  | 55   | 27   | 2    | 86         | 10                        | 10   | 19   | 3    | 42         | 21                 | 48   | 1    | 0    | 70         | 267        |
| 07:30 AM                                                   | 18                        | 63   | 0    | 0    | 81         | 0                  | 54   | 32   | 3    | 89         | 24                        | 14   | 16   | 4    | 58         | 20                 | 45   | 5    | 2    | 72         | 300        |
| 07:45 AM                                                   | 6                         | 74   | 4    | 0    | 84         | 3                  | 34   | 35   | 1    | 73         | 19                        | 20   | 7    | 2    | 48         | 19                 | 46   | 7    | 4    | 76         | 281        |
| 08:00 AM                                                   | 10                        | 51   | 1    | 1    | 63         | 2                  | 46   | 22   | 2    | 72         | 20                        | 25   | 11   | 1    | 57         | 6                  | 44   | 7    | 5    | 62         | 254        |
| Total Volume                                               | 47                        | 243  | 5    | 2    | 297        | 7                  | 189  | 116  | 8    | 320        | 73                        | 69   | 53   | 10   | 205        | 66                 | 183  | 20   | 11   | 280        | 1102       |
| % App. Total                                               | 15.8                      | 81.8 | 1.7  | 0.7  |            | 2.2                | 59.1 | 36.2 | 2.5  |            | 35.6                      | 33.7 | 25.9 | 4.9  |            | 23.6               | 65.4 | 7.1  | 3.9  |            |            |
| PHF                                                        | .653                      | .821 | .313 | .500 | .884       | .583               | .859 | .829 | .667 | .899       | .760                      | .690 | .697 | .625 | .884       | .786               | .953 | .714 | .550 | .921       | .918       |





File Name : 6 - Route 31 @ South Bay - 5-19-22  
 Site Code : 00000006  
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|                                                            | South Bay Road<br>Southbound |      |      |      |            | Route 31<br>Westbound |      |      |      |            | South Bay Road<br>Northbound |      |      |      |            | Route 31<br>Eastbound |      |      |      |            |            |
|------------------------------------------------------------|------------------------------|------|------|------|------------|-----------------------|------|------|------|------------|------------------------------|------|------|------|------------|-----------------------|------|------|------|------------|------------|
| Start<br>Time                                              | Right                        | Thru | Left | HV   | App. Total | Right                 | Thru | Left | HV   | App. Total | Right                        | Thru | Left | HV   | App. Total | Right                 | Thru | Left | HV   | App. Total | Int. Total |
| Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1 |                              |      |      |      |            |                       |      |      |      |            |                              |      |      |      |            |                       |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 04:30 PM       |                              |      |      |      |            |                       |      |      |      |            |                              |      |      |      |            |                       |      |      |      |            |            |
| 04:30 PM                                                   | 9                            | 31   | 2    | 1    | 43         | 4                     | 76   | 26   | 5    | 111        | 49                           | 54   | 16   | 3    | 122        | 20                    | 97   | 20   | 6    | 143        | 419        |
| 04:45 PM                                                   | 7                            | 23   | 0    | 1    | 31         | 3                     | 84   | 35   | 8    | 130        | 29                           | 64   | 14   | 3    | 110        | 24                    | 69   | 10   | 4    | 107        | 378        |
| 05:00 PM                                                   | 13                           | 44   | 1    | 2    | 60         | 3                     | 57   | 29   | 6    | 95         | 39                           | 59   | 18   | 4    | 120        | 24                    | 88   | 10   | 6    | 128        | 403        |
| 05:15 PM                                                   | 13                           | 30   | 1    | 1    | 45         | 4                     | 74   | 38   | 4    | 120        | 54                           | 70   | 22   | 4    | 150        | 30                    | 103  | 10   | 2    | 145        | 460        |
| Total Volume                                               | 42                           | 128  | 4    | 5    | 179        | 14                    | 291  | 128  | 23   | 456        | 171                          | 247  | 70   | 14   | 502        | 98                    | 357  | 50   | 18   | 523        | 1660       |
| % App. Total                                               | 23.5                         | 71.5 | 2.2  | 2.8  |            | 3.1                   | 63.8 | 28.1 | 5    |            | 34.1                         | 49.2 | 13.9 | 2.8  |            | 18.7                  | 68.3 | 9.6  | 3.4  |            |            |
| PHF                                                        | .808                         | .727 | .500 | .625 | .746       | .875                  | .866 | .842 | .719 | .877       | .792                         | .882 | .795 | .875 | .837       | .817                  | .867 | .625 | .750 | .902       | .902       |





File Name : 6 - Route 31 @ South Bay - 5-19-22  
Site Code : 00000006  
Start Date : 5/19/2022  
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### Groups Printed- Peds

|             | South Bay Road<br>Southbound |      |      |      | Route 31<br>Westbound |      |      |      | South Bay Road<br>Northbound |      |      |      | Route 31<br>Eastbound |      |      |      |            |
|-------------|------------------------------|------|------|------|-----------------------|------|------|------|------------------------------|------|------|------|-----------------------|------|------|------|------------|
| Start Time  | Right                        | Thru | Left | Peds | Right                 | Thru | Left | Peds | Right                        | Thru | Left | Peds | Right                 | Thru | Left | Peds | Int. Total |
| Grand Total | 0                            | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 0                            | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 0          |
| Apprch %    | 0                            | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 0                            | 0    | 0    | 0    | 0                     | 0    | 0    | 0    |            |
| Total %     |                              |      |      |      |                       |      |      |      |                              |      |      |      |                       |      |      |      |            |



File Name : 6 - Route 31 @ South Bay - 5-14-22

Site Code : 00000006

Start Date : 5/14/2022

Page No : 1

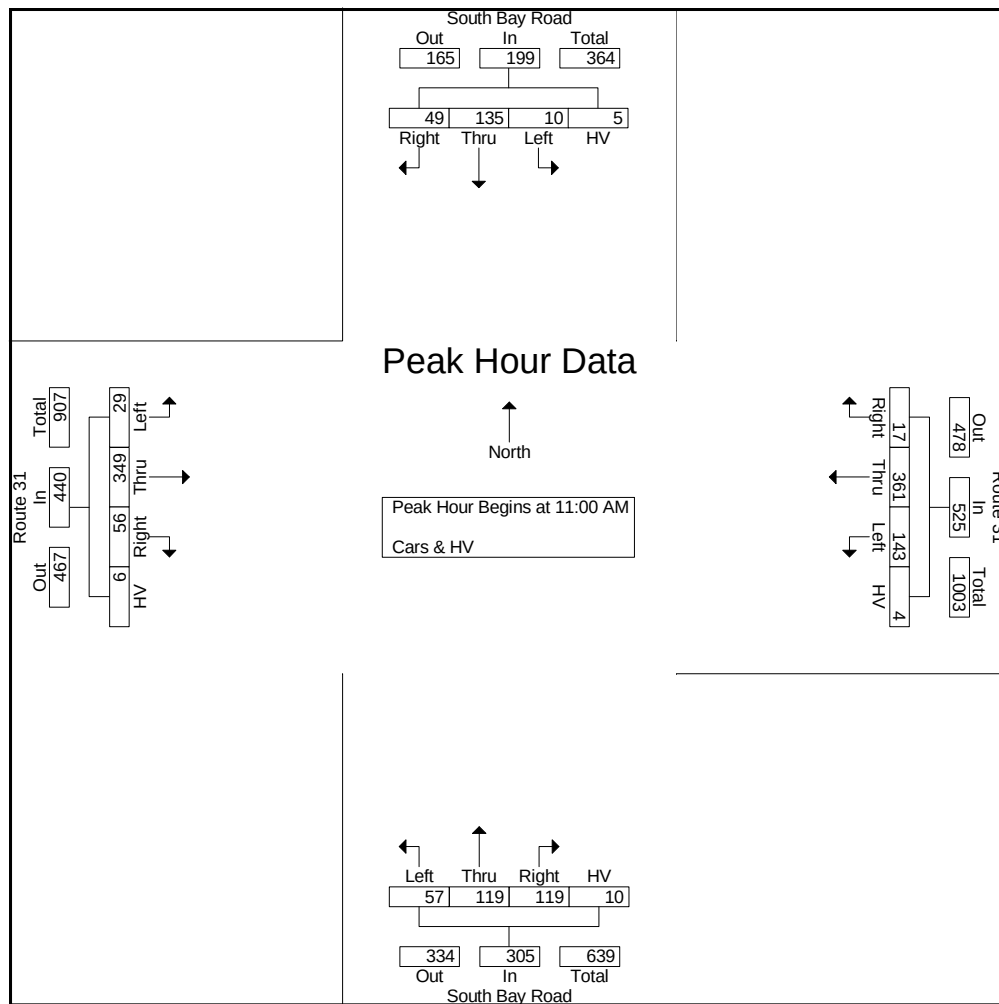
Groups Printed- Cars & HV

|             | South Bay Road<br>Southbound |      |      |     | Route 31<br>Westbound |      |      |     | South Bay Road<br>Northbound |      |      |     | Route 31<br>Eastbound |      |      |     |            |
|-------------|------------------------------|------|------|-----|-----------------------|------|------|-----|------------------------------|------|------|-----|-----------------------|------|------|-----|------------|
| Start Time  | Right                        | Thru | Left | HV  | Right                 | Thru | Left | HV  | Right                        | Thru | Left | HV  | Right                 | Thru | Left | HV  | Int. Total |
| 11:00 AM    | 9                            | 36   | 2    | 0   | 1                     | 101  | 26   | 0   | 22                           | 31   | 17   | 2   | 14                    | 100  | 9    | 1   | 371        |
| 11:15 AM    | 13                           | 31   | 2    | 1   | 3                     | 103  | 47   | 0   | 34                           | 32   | 16   | 5   | 21                    | 73   | 7    | 3   | 391        |
| 11:30 AM    | 5                            | 26   | 3    | 3   | 0                     | 96   | 44   | 3   | 28                           | 25   | 11   | 2   | 12                    | 100  | 6    | 2   | 366        |
| 11:45 AM    | 22                           | 42   | 3    | 1   | 13                    | 61   | 26   | 1   | 35                           | 31   | 13   | 1   | 9                     | 76   | 7    | 0   | 341        |
| Total       | 49                           | 135  | 10   | 5   | 17                    | 361  | 143  | 4   | 119                          | 119  | 57   | 10  | 56                    | 349  | 29   | 6   | 1469       |
| 12:00 PM    | 10                           | 37   | 4    | 1   | 2                     | 75   | 28   | 1   | 26                           | 34   | 6    | 0   | 13                    | 81   | 8    | 0   | 326        |
| 12:15 PM    | 13                           | 30   | 5    | 2   | 1                     | 72   | 27   | 0   | 29                           | 37   | 7    | 1   | 13                    | 91   | 3    | 0   | 331        |
| 12:30 PM    | 15                           | 28   | 3    | 2   | 1                     | 89   | 33   | 3   | 35                           | 41   | 14   | 1   | 13                    | 88   | 11   | 0   | 377        |
| 12:45 PM    | 6                            | 35   | 2    | 1   | 0                     | 71   | 33   | 0   | 27                           | 32   | 16   | 1   | 18                    | 113  | 9    | 0   | 364        |
| Total       | 44                           | 130  | 14   | 6   | 4                     | 307  | 121  | 4   | 117                          | 144  | 43   | 3   | 57                    | 373  | 31   | 0   | 1398       |
| Grand Total | 93                           | 265  | 24   | 11  | 21                    | 668  | 264  | 8   | 236                          | 263  | 100  | 13  | 113                   | 722  | 60   | 6   | 2867       |
| Apprch %    | 23.7                         | 67.4 | 6.1  | 2.8 | 2.2                   | 69.5 | 27.5 | 0.8 | 38.6                         | 43   | 16.3 | 2.1 | 12.5                  | 80.1 | 6.7  | 0.7 |            |
| Total %     | 3.2                          | 9.2  | 0.8  | 0.4 | 0.7                   | 23.3 | 9.2  | 0.3 | 8.2                          | 9.2  | 3.5  | 0.5 | 3.9                   | 25.2 | 2.1  | 0.2 |            |



File Name : 6 - Route 31 @ South Bay - 5-14-22  
 Site Code : 00000006  
 Start Date : 5/14/2022  
 Page No : 2

|                                                            | South Bay Road Southbound |      |      |      |            | Route 31 Westbound |      |      |      |            | South Bay Road Northbound |      |      |      |            | Route 31 Eastbound |      |      |      |            |            |
|------------------------------------------------------------|---------------------------|------|------|------|------------|--------------------|------|------|------|------------|---------------------------|------|------|------|------------|--------------------|------|------|------|------------|------------|
| Start Time                                                 | Right                     | Thru | Left | HV   | App. Total | Right              | Thru | Left | HV   | App. Total | Right                     | Thru | Left | HV   | App. Total | Right              | Thru | Left | HV   | App. Total | Int. Total |
| Peak Hour Analysis From 11:00 AM to 12:45 PM - Peak 1 of 1 |                           |      |      |      |            |                    |      |      |      |            |                           |      |      |      |            |                    |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 11:00 AM       |                           |      |      |      |            |                    |      |      |      |            |                           |      |      |      |            |                    |      |      |      |            |            |
| 11:00 AM                                                   | 9                         | 36   | 2    | 0    | 47         | 1                  | 101  | 26   | 0    | 128        | 22                        | 31   | 17   | 2    | 72         | 14                 | 100  | 9    | 1    | 124        | 371        |
| 11:15 AM                                                   | 13                        | 31   | 2    | 1    | 47         | 3                  | 103  | 47   | 0    | 153        | 34                        | 32   | 16   | 5    | 87         | 21                 | 73   | 7    | 3    | 104        | 391        |
| 11:30 AM                                                   | 5                         | 26   | 3    | 3    | 37         | 0                  | 96   | 44   | 3    | 143        | 28                        | 25   | 11   | 2    | 66         | 12                 | 100  | 6    | 2    | 120        | 366        |
| 11:45 AM                                                   | 22                        | 42   | 3    | 1    | 68         | 13                 | 61   | 26   | 1    | 101        | 35                        | 31   | 13   | 1    | 80         | 9                  | 76   | 7    | 0    | 92         | 341        |
| Total Volume                                               | 49                        | 135  | 10   | 5    | 199        | 17                 | 361  | 143  | 4    | 525        | 119                       | 119  | 57   | 10   | 305        | 56                 | 349  | 29   | 6    | 440        | 1469       |
| % App. Total                                               | 24.6                      | 67.8 | 5    | 2.5  |            | 3.2                | 68.8 | 27.2 | 0.8  |            | 39                        | 39   | 18.7 | 3.3  |            | 12.7               | 79.3 | 6.6  | 1.4  |            |            |
| PHF                                                        | .557                      | .804 | .833 | .417 | .732       | .327               | .876 | .761 | .333 | .858       | .850                      | .930 | .838 | .500 | .876       | .667               | .873 | .806 | .500 | .887       | .939       |





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### Groups Printed- Peds

[illegible]



File Name : 7 - Route 31 @ Lakeshore West  
 Site Code : 00000007  
 Start Date : 5/12/2022  
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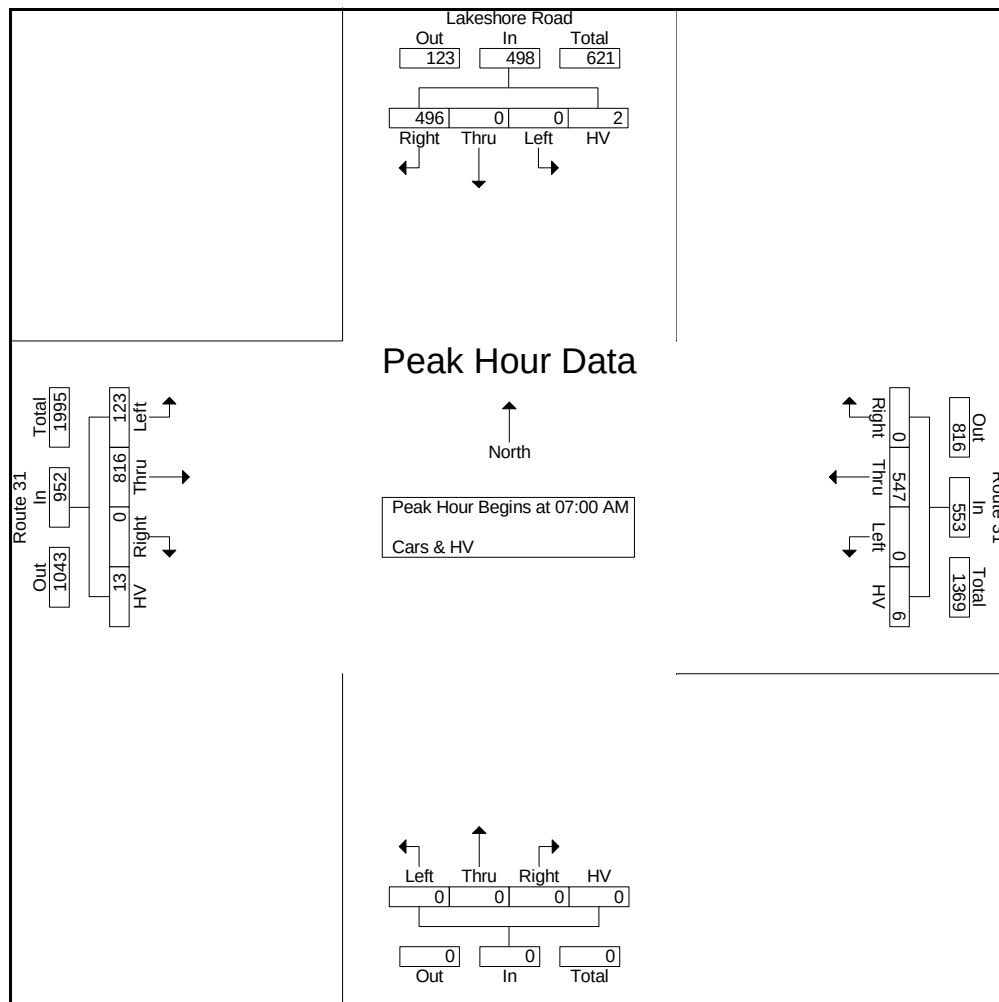
Groups Printed- Cars & HV

|             | Lakeshore Road Southbound |      |      |     | Route 31 Westbound |      |      |     | Northbound |      |      |    | Route 31 Eastbound |      |      |     | Int. Total |
|-------------|---------------------------|------|------|-----|--------------------|------|------|-----|------------|------|------|----|--------------------|------|------|-----|------------|
| Start Time  | Right                     | Thru | Left | HV  | Right              | Thru | Left | HV  | Right      | Thru | Left | HV | Right              | Thru | Left | HV  |            |
| 07:00 AM    | 111                       | 0    | 0    | 0   | 0                  | 98   | 0    | 1   | 0          | 0    | 0    | 0  | 0                  | 165  | 19   | 1   | 395        |
| 07:15 AM    | 121                       | 0    | 0    | 1   | 0                  | 156  | 0    | 1   | 0          | 0    | 0    | 0  | 0                  | 258  | 34   | 4   | 575        |
| 07:30 AM    | 137                       | 0    | 0    | 0   | 0                  | 173  | 0    | 2   | 0          | 0    | 0    | 0  | 0                  | 199  | 31   | 1   | 543        |
| 07:45 AM    | 127                       | 0    | 0    | 1   | 0                  | 120  | 0    | 2   | 0          | 0    | 0    | 0  | 0                  | 194  | 39   | 7   | 490        |
| Total       | 496                       | 0    | 0    | 2   | 0                  | 547  | 0    | 6   | 0          | 0    | 0    | 0  | 0                  | 816  | 123  | 13  | 2003       |
| 08:00 AM    | 113                       | 0    | 0    | 0   | 0                  | 112  | 0    | 4   | 0          | 0    | 0    | 0  | 0                  | 105  | 39   | 2   | 375        |
| 08:15 AM    | 86                        | 0    | 0    | 1   | 0                  | 118  | 0    | 2   | 0          | 0    | 0    | 0  | 0                  | 102  | 48   | 5   | 362        |
| 08:30 AM    | 96                        | 0    | 0    | 1   | 0                  | 122  | 0    | 2   | 0          | 0    | 0    | 0  | 0                  | 79   | 52   | 1   | 353        |
| 08:45 AM    | 91                        | 0    | 1    | 1   | 0                  | 110  | 0    | 2   | 0          | 0    | 0    | 0  | 0                  | 131  | 62   | 3   | 401        |
| Total       | 386                       | 0    | 1    | 3   | 0                  | 462  | 0    | 10  | 0          | 0    | 0    | 0  | 0                  | 417  | 201  | 11  | 1491       |
| 04:00 PM    | 86                        | 0    | 0    | 0   | 0                  | 149  | 0    | 0   | 0          | 0    | 0    | 0  | 0                  | 169  | 100  | 1   | 505        |
| 04:15 PM    | 70                        | 0    | 1    | 0   | 0                  | 162  | 0    | 1   | 0          | 0    | 0    | 0  | 0                  | 205  | 108  | 3   | 550        |
| 04:30 PM    | 59                        | 0    | 0    | 0   | 0                  | 182  | 0    | 4   | 0          | 0    | 0    | 0  | 0                  | 218  | 120  | 3   | 586        |
| 04:45 PM    | 70                        | 0    | 0    | 0   | 0                  | 169  | 0    | 1   | 0          | 0    | 0    | 0  | 0                  | 213  | 112  | 4   | 569        |
| Total       | 285                       | 0    | 1    | 0   | 0                  | 662  | 0    | 6   | 0          | 0    | 0    | 0  | 0                  | 805  | 440  | 11  | 2210       |
| 05:00 PM    | 77                        | 0    | 0    | 1   | 0                  | 197  | 0    | 6   | 0          | 0    | 0    | 0  | 0                  | 146  | 108  | 1   | 536        |
| 05:15 PM    | 83                        | 0    | 0    | 0   | 0                  | 169  | 0    | 3   | 0          | 0    | 0    | 0  | 0                  | 204  | 106  | 2   | 567        |
| 05:30 PM    | 89                        | 0    | 0    | 0   | 0                  | 156  | 0    | 2   | 0          | 0    | 0    | 0  | 0                  | 165  | 105  | 4   | 521        |
| 05:45 PM    | 60                        | 0    | 0    | 0   | 0                  | 139  | 0    | 1   | 0          | 0    | 0    | 0  | 0                  | 163  | 99   | 0   | 462        |
| Total       | 309                       | 0    | 0    | 1   | 0                  | 661  | 0    | 12  | 0          | 0    | 0    | 0  | 0                  | 678  | 418  | 7   | 2086       |
| Grand Total | 1476                      | 0    | 2    | 6   | 0                  | 2332 | 0    | 34  | 0          | 0    | 0    | 0  | 0                  | 2716 | 1182 | 42  | 7790       |
| Apprch %    | 99.5                      | 0    | 0.1  | 0.4 | 0                  | 98.6 | 0    | 1.4 | 0          | 0    | 0    | 0  | 0                  | 68.9 | 30   | 1.1 |            |
| Total %     | 18.9                      | 0    | 0    | 0.1 | 0                  | 29.9 | 0    | 0.4 | 0          | 0    | 0    | 0  | 0                  | 34.9 | 15.2 | 0.5 |            |



File Name : 7 - Route 31 @ Lakeshore West  
 Site Code : 00000007  
 Start Date : 5/12/2022  
 Page No : 2

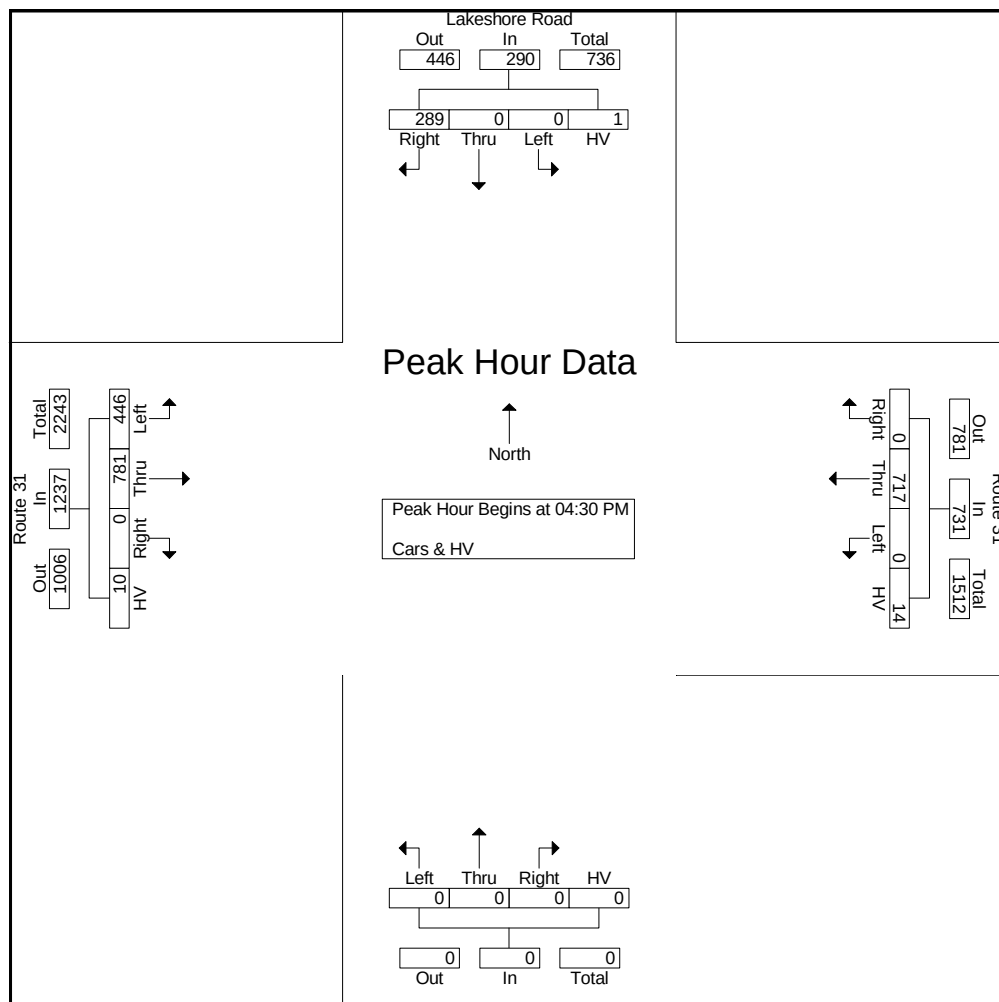
|                                                            | Lakeshore Road Southbound |      |      |      |            | Route 31 Westbound |      |      |      |            | Northbound |      |      |      |            | Route 31 Eastbound |      |      |      |            |            |
|------------------------------------------------------------|---------------------------|------|------|------|------------|--------------------|------|------|------|------------|------------|------|------|------|------------|--------------------|------|------|------|------------|------------|
| Start Time                                                 | Right                     | Thru | Left | HV   | App. Total | Right              | Thru | Left | HV   | App. Total | Right      | Thru | Left | HV   | App. Total | Right              | Thru | Left | HV   | App. Total | Int. Total |
| Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1 |                           |      |      |      |            |                    |      |      |      |            |            |      |      |      |            |                    |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 07:00 AM       |                           |      |      |      |            |                    |      |      |      |            |            |      |      |      |            |                    |      |      |      |            |            |
| 07:00 AM                                                   | 111                       | 0    | 0    | 0    | 111        | 0                  | 98   | 0    | 1    | 99         | 0          | 0    | 0    | 0    | 0          | 0                  | 165  | 19   | 1    | 185        | 395        |
| 07:15 AM                                                   | 121                       | 0    | 0    | 1    | 122        | 0                  | 156  | 0    | 1    | 157        | 0          | 0    | 0    | 0    | 0          | 0                  | 258  | 34   | 4    | 296        | 575        |
| 07:30 AM                                                   | 137                       | 0    | 0    | 0    | 137        | 0                  | 173  | 0    | 2    | 175        | 0          | 0    | 0    | 0    | 0          | 0                  | 199  | 31   | 1    | 231        | 543        |
| 07:45 AM                                                   | 127                       | 0    | 0    | 1    | 128        | 0                  | 120  | 0    | 2    | 122        | 0          | 0    | 0    | 0    | 0          | 0                  | 194  | 39   | 7    | 240        | 490        |
| Total Volume                                               | 496                       | 0    | 0    | 2    | 498        | 0                  | 547  | 0    | 6    | 553        | 0          | 0    | 0    | 0    | 0          | 0                  | 816  | 123  | 13   | 952        | 2003       |
| % App. Total                                               | 99.6                      | 0    | 0    | 0.4  |            | 0                  | 98.9 | 0    | 1.1  |            | 0          | 0    | 0    | 0    |            | 0                  | 85.7 | 12.9 | 1.4  |            |            |
| PHF                                                        | .905                      | .000 | .000 | .500 | .909       | .000               | .790 | .000 | .750 | .790       | .000       | .000 | .000 | .000 | .000       | .000               | .791 | .788 | .464 | .804       | .871       |





File Name : 7 - Route 31 @ Lakeshore West  
 Site Code : 00000007  
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|                                                            | Lakeshore Road Southbound |      |      |      |            | Route 31 Westbound |      |      |      |            | Northbound |      |      |      |            | Route 31 Eastbound |      |      |      |            |            |
|------------------------------------------------------------|---------------------------|------|------|------|------------|--------------------|------|------|------|------------|------------|------|------|------|------------|--------------------|------|------|------|------------|------------|
| Start Time                                                 | Right                     | Thru | Left | HV   | App. Total | Right              | Thru | Left | HV   | App. Total | Right      | Thru | Left | HV   | App. Total | Right              | Thru | Left | HV   | App. Total | Int. Total |
| Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1 |                           |      |      |      |            |                    |      |      |      |            |            |      |      |      |            |                    |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 04:30 PM       |                           |      |      |      |            |                    |      |      |      |            |            |      |      |      |            |                    |      |      |      |            |            |
| 04:30 PM                                                   | 59                        | 0    | 0    | 0    | 59         | 0                  | 182  | 0    | 4    | 186        | 0          | 0    | 0    | 0    | 0          | 0                  | 218  | 120  | 3    | 341        | 586        |
| 04:45 PM                                                   | 70                        | 0    | 0    | 0    | 70         | 0                  | 169  | 0    | 1    | 170        | 0          | 0    | 0    | 0    | 0          | 0                  | 213  | 112  | 4    | 329        | 569        |
| 05:00 PM                                                   | 77                        | 0    | 0    | 1    | 78         | 0                  | 197  | 0    | 6    | 203        | 0          | 0    | 0    | 0    | 0          | 0                  | 146  | 108  | 1    | 255        | 536        |
| 05:15 PM                                                   | 83                        | 0    | 0    | 0    | 83         | 0                  | 169  | 0    | 3    | 172        | 0          | 0    | 0    | 0    | 0          | 0                  | 204  | 106  | 2    | 312        | 567        |
| Total Volume                                               | 289                       | 0    | 0    | 1    | 290        | 0                  | 717  | 0    | 14   | 731        | 0          | 0    | 0    | 0    | 0          | 0                  | 781  | 446  | 10   | 1237       | 2258       |
| % App. Total                                               | 99.7                      | 0    | 0    | 0.3  |            | 0                  | 98.1 | 0    | 1.9  |            | 0          | 0    | 0    | 0    |            | 0                  | 63.1 | 36.1 | 0.8  |            |            |
| PHF                                                        | .870                      | .000 | .000 | .250 | .873       | .000               | .910 | .000 | .583 | .900       | .000       | .000 | .000 | .000 | .000       | .000               | .896 | .929 | .625 | .907       | .963       |





File Name : 7 - Route 31 @ Lakeshore West  
 Site Code : 00000007  
 Start Date : 5/12/2022  
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Groups Printed- Peds

|             | Lakeshore Road<br>Southbound |      |      |      | Route 31<br>Westbound |      |      |      | Northbound |      |      |      | Route 31<br>Eastbound |      |      |      | Int. Total |
|-------------|------------------------------|------|------|------|-----------------------|------|------|------|------------|------|------|------|-----------------------|------|------|------|------------|
| Start Time  | Right                        | Thru | Left | Peds | Right                 | Thru | Left | Peds | Right      | Thru | Left | Peds | Right                 | Thru | Left | Peds |            |
| 07:15 AM    | 0                            | 0    | 0    | 0    | 0                     | 0    | 0    | 1    | 0          | 0    | 0    | 1    | 0                     | 0    | 0    | 0    | 2          |
| 07:30 AM    | 0                            | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 0          | 0    | 0    | 1    | 0                     | 0    | 0    | 0    | 1          |
| Total       | 0                            | 0    | 0    | 0    | 0                     | 0    | 0    | 1    | 0          | 0    | 0    | 2    | 0                     | 0    | 0    | 0    | 3          |
| 04:00 PM    | 0                            | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 0          | 0    | 0    | 1    | 0                     | 0    | 0    | 0    | 1          |
| Total       | 0                            | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 0          | 0    | 0    | 1    | 0                     | 0    | 0    | 0    | 1          |
| Grand Total | 0                            | 0    | 0    | 0    | 0                     | 0    | 0    | 1    | 0          | 0    | 0    | 3    | 0                     | 0    | 0    | 0    | 4          |
| Apprch %    | 0                            | 0    | 0    | 0    | 0                     | 0    | 0    | 100  | 0          | 0    | 0    | 100  | 0                     | 0    | 0    | 0    |            |
| Total %     | 0                            | 0    | 0    | 0    | 0                     | 0    | 0    | 25   | 0          | 0    | 0    | 75   | 0                     | 0    | 0    | 0    |            |



File Name : 7 - Route 31 @ Lakeshore West - 5-18-22

Site Code : 00000007

Start Date : 5/18/2022

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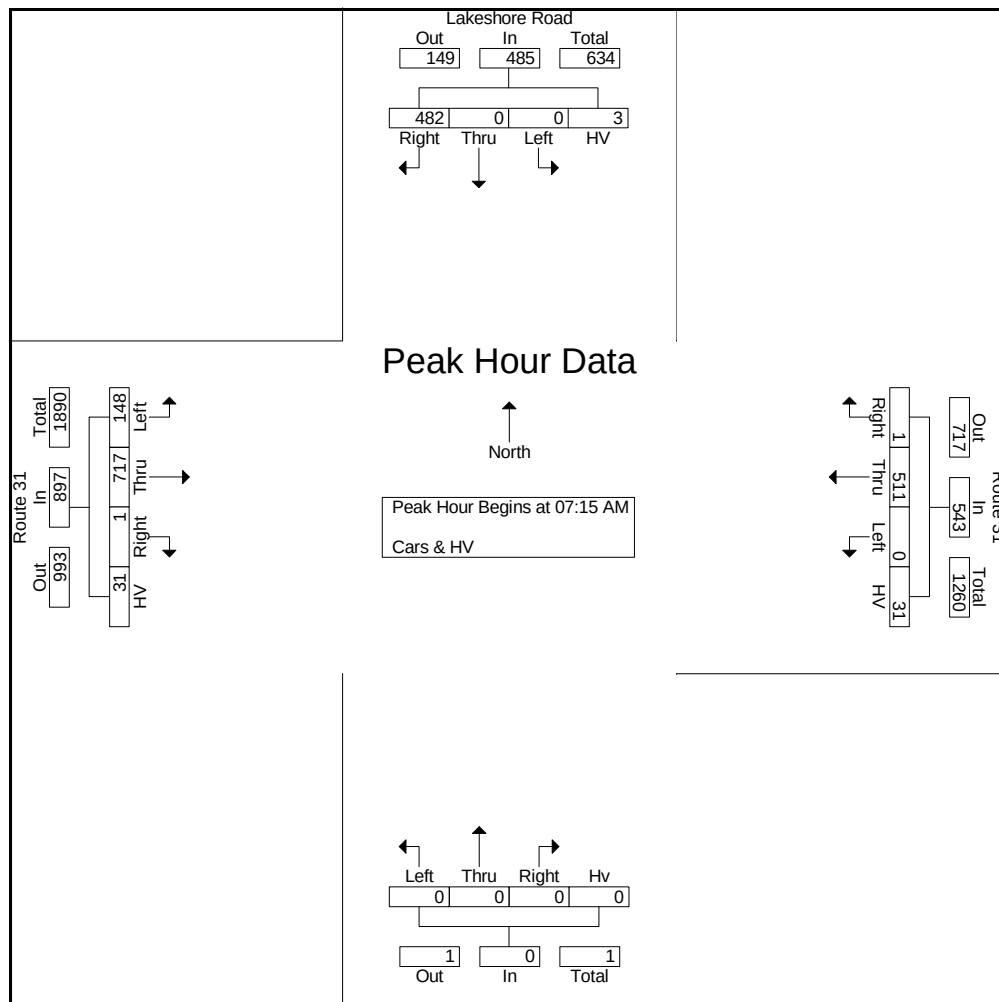
Groups Printed- Cars & HV

|             | Lakeshore Road<br>Southbound |      |      |     | Route 31<br>Westbound |      |      |     | Northbound |      |      |    | Route 31<br>Eastbound |      |      |    |            |
|-------------|------------------------------|------|------|-----|-----------------------|------|------|-----|------------|------|------|----|-----------------------|------|------|----|------------|
| Start Time  | Right                        | Thru | Left | HV  | Right                 | Thru | Left | HV  | Right      | Thru | Left | Hv | Right                 | Thru | Left | HV | Int. Total |
| 07:00 AM    | 111                          | 0    | 0    | 1   | 0                     | 100  | 0    | 7   | 0          | 0    | 0    | 0  | 0                     | 149  | 14   | 17 | 399        |
| 07:15 AM    | 118                          | 0    | 0    | 1   | 1                     | 139  | 0    | 15  | 0          | 0    | 0    | 0  | 0                     | 259  | 37   | 6  | 576        |
| 07:30 AM    | 128                          | 0    | 0    | 0   | 0                     | 151  | 0    | 1   | 0          | 0    | 0    | 0  | 1                     | 176  | 25   | 7  | 489        |
| 07:45 AM    | 110                          | 0    | 0    | 1   | 0                     | 119  | 0    | 7   | 0          | 0    | 0    | 0  | 0                     | 152  | 41   | 10 | 440        |
| Total       | 467                          | 0    | 0    | 3   | 1                     | 509  | 0    | 30  | 0          | 0    | 0    | 0  | 1                     | 736  | 117  | 40 | 1904       |
| 08:00 AM    | 126                          | 0    | 0    | 1   | 0                     | 102  | 0    | 8   | 0          | 0    | 0    | 0  | 0                     | 130  | 45   | 8  | 420        |
| 08:15 AM    | 90                           | 0    | 0    | 1   | 4                     | 106  | 0    | 6   | 0          | 0    | 0    | 0  | 0                     | 128  | 45   | 5  | 385        |
| 08:30 AM    | 115                          | 0    | 1    | 6   | 0                     | 103  | 0    | 1   | 0          | 0    | 0    | 0  | 0                     | 108  | 43   | 4  | 381        |
| 08:45 AM    | 86                           | 0    | 0    | 0   | 0                     | 110  | 0    | 1   | 0          | 0    | 0    | 0  | 0                     | 134  | 63   | 13 | 407        |
| Total       | 417                          | 0    | 1    | 8   | 4                     | 421  | 0    | 16  | 0          | 0    | 0    | 0  | 0                     | 500  | 196  | 30 | 1593       |
| 04:00 PM    | 82                           | 0    | 0    | 6   | 0                     | 180  | 0    | 3   | 0          | 0    | 0    | 0  | 0                     | 200  | 118  | 2  | 591        |
| 04:15 PM    | 88                           | 0    | 0    | 3   | 1                     | 182  | 0    | 9   | 0          | 0    | 0    | 0  | 0                     | 181  | 115  | 2  | 581        |
| 04:30 PM    | 82                           | 0    | 0    | 2   | 0                     | 173  | 0    | 1   | 0          | 0    | 0    | 0  | 0                     | 152  | 114  | 2  | 526        |
| 04:45 PM    | 83                           | 0    | 0    | 0   | 0                     | 186  | 0    | 0   | 0          | 0    | 0    | 0  | 0                     | 190  | 127  | 2  | 588        |
| Total       | 335                          | 0    | 0    | 11  | 1                     | 721  | 0    | 13  | 0          | 0    | 0    | 0  | 0                     | 723  | 474  | 8  | 2286       |
| 05:00 PM    | 85                           | 0    | 0    | 1   | 0                     | 177  | 0    | 2   | 0          | 0    | 0    | 0  | 0                     | 207  | 102  | 3  | 577        |
| 05:15 PM    | 75                           | 0    | 0    | 0   | 0                     | 185  | 0    | 0   | 0          | 0    | 0    | 0  | 0                     | 198  | 120  | 0  | 578        |
| 05:30 PM    | 70                           | 0    | 0    | 1   | 0                     | 153  | 0    | 0   | 0          | 0    | 0    | 0  | 0                     | 193  | 117  | 0  | 534        |
| 05:45 PM    | 74                           | 0    | 0    | 0   | 0                     | 147  | 0    | 0   | 0          | 0    | 0    | 0  | 0                     | 193  | 96   | 2  | 512        |
| Total       | 304                          | 0    | 0    | 2   | 0                     | 662  | 0    | 2   | 0          | 0    | 0    | 0  | 0                     | 791  | 435  | 5  | 2201       |
| Grand Total | 1523                         | 0    | 1    | 24  | 6                     | 2313 | 0    | 61  | 0          | 0    | 0    | 0  | 1                     | 2750 | 1222 | 83 | 7984       |
| Apprch %    | 98.4                         | 0    | 0.1  | 1.6 | 0.3                   | 97.2 | 0    | 2.6 | 0          | 0    | 0    | 0  | 0                     | 67.8 | 30.1 | 2  |            |
| Total %     | 19.1                         | 0    | 0    | 0.3 | 0.1                   | 29   | 0    | 0.8 | 0          | 0    | 0    | 0  | 0                     | 34.4 | 15.3 | 1  |            |



File Name : 7 - Route 31 @ Lakeshore West - 5-18-22  
 Site Code : 00000007  
 Start Date : 5/18/2022  
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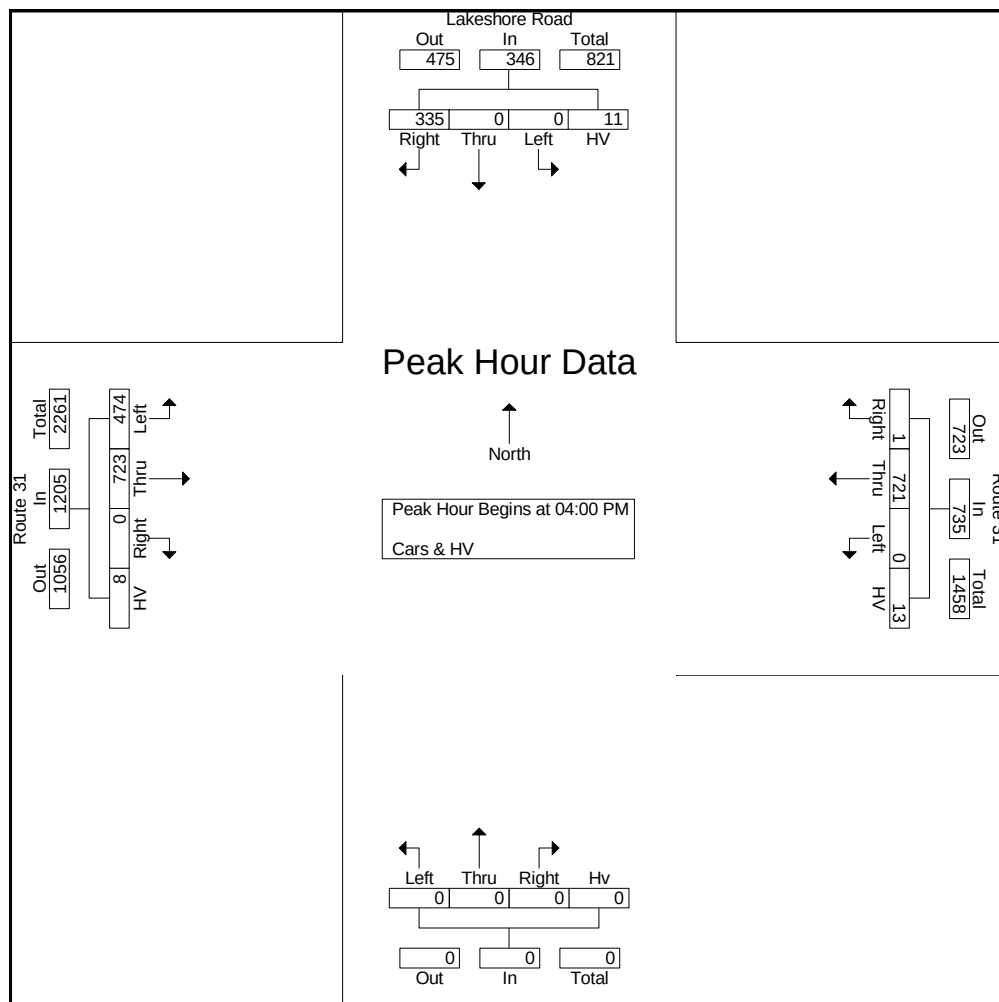
|                                                            | Lakeshore Road Southbound |      |      |      |            | Route 31 Westbound |      |      |      |            | Northbound |      |      |      |            | Route 31 Eastbound |      |      |      |            |            |
|------------------------------------------------------------|---------------------------|------|------|------|------------|--------------------|------|------|------|------------|------------|------|------|------|------------|--------------------|------|------|------|------------|------------|
| Start Time                                                 | Right                     | Thru | Left | HV   | App. Total | Right              | Thru | Left | HV   | App. Total | Right      | Thru | Left | Hv   | App. Total | Right              | Thru | Left | HV   | App. Total | Int. Total |
| Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1 |                           |      |      |      |            |                    |      |      |      |            |            |      |      |      |            |                    |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 07:15 AM       |                           |      |      |      |            |                    |      |      |      |            |            |      |      |      |            |                    |      |      |      |            |            |
| 07:15 AM                                                   | 118                       | 0    | 0    | 1    | 119        | 1                  | 139  | 0    | 15   | 155        | 0          | 0    | 0    | 0    | 0          | 0                  | 259  | 37   | 6    | 302        | 576        |
| 07:30 AM                                                   | 128                       | 0    | 0    | 0    | 128        | 0                  | 151  | 0    | 1    | 152        | 0          | 0    | 0    | 0    | 0          | 1                  | 176  | 25   | 7    | 209        | 489        |
| 07:45 AM                                                   | 110                       | 0    | 0    | 1    | 111        | 0                  | 119  | 0    | 7    | 126        | 0          | 0    | 0    | 0    | 0          | 0                  | 152  | 41   | 10   | 203        | 440        |
| 08:00 AM                                                   | 126                       | 0    | 0    | 1    | 127        | 0                  | 102  | 0    | 8    | 110        | 0          | 0    | 0    | 0    | 0          | 0                  | 130  | 45   | 8    | 183        | 420        |
| Total Volume                                               | 482                       | 0    | 0    | 3    | 485        | 1                  | 511  | 0    | 31   | 543        | 0          | 0    | 0    | 0    | 0          | 1                  | 717  | 148  | 31   | 897        | 1925       |
| % App. Total                                               | 99.4                      | 0    | 0    | 0.6  |            | 0.2                | 94.1 | 0    | 5.7  |            | 0          | 0    | 0    | 0    |            | 0.1                | 79.9 | 16.5 | 3.5  |            |            |
| PHF                                                        | .941                      | .000 | .000 | .750 | .947       | .250               | .846 | .000 | .517 | .876       | .000       | .000 | .000 | .000 | .000       | .250               | .692 | .822 | .775 | .743       | .836       |





File Name : 7 - Route 31 @ Lakeshore West - 5-18-22  
 Site Code : 00000007  
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|                                                            | Lakeshore Road Southbound |      |      |      |            | Route 31 Westbound |      |      |      |            | Northbound |      |      |      |            | Route 31 Eastbound |      |      |      |            |            |
|------------------------------------------------------------|---------------------------|------|------|------|------------|--------------------|------|------|------|------------|------------|------|------|------|------------|--------------------|------|------|------|------------|------------|
| Start Time                                                 | Right                     | Thru | Left | HV   | App. Total | Right              | Thru | Left | HV   | App. Total | Right      | Thru | Left | Hv   | App. Total | Right              | Thru | Left | HV   | App. Total | Int. Total |
| Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1 |                           |      |      |      |            |                    |      |      |      |            |            |      |      |      |            |                    |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 04:00 PM       |                           |      |      |      |            |                    |      |      |      |            |            |      |      |      |            |                    |      |      |      |            |            |
| 04:00 PM                                                   | 82                        | 0    | 0    | 6    | 88         | 0                  | 180  | 0    | 3    | 183        | 0          | 0    | 0    | 0    | 0          | 0                  | 200  | 118  | 2    | 320        | 591        |
| 04:15 PM                                                   | 88                        | 0    | 0    | 3    | 91         | 1                  | 182  | 0    | 9    | 192        | 0          | 0    | 0    | 0    | 0          | 0                  | 181  | 115  | 2    | 298        | 581        |
| 04:30 PM                                                   | 82                        | 0    | 0    | 2    | 84         | 0                  | 173  | 0    | 1    | 174        | 0          | 0    | 0    | 0    | 0          | 0                  | 152  | 114  | 2    | 268        | 526        |
| 04:45 PM                                                   | 83                        | 0    | 0    | 0    | 83         | 0                  | 186  | 0    | 0    | 186        | 0          | 0    | 0    | 0    | 0          | 0                  | 190  | 127  | 2    | 319        | 588        |
| Total Volume                                               | 335                       | 0    | 0    | 11   | 346        | 1                  | 721  | 0    | 13   | 735        | 0          | 0    | 0    | 0    | 0          | 0                  | 723  | 474  | 8    | 1205       | 2286       |
| % App. Total                                               | 96.8                      | 0    | 0    | 3.2  |            | 0.1                | 98.1 | 0    | 1.8  |            | 0          | 0    | 0    | 0    |            | 0                  | 60   | 39.3 | 0.7  |            |            |
| PHF                                                        | .952                      | .000 | .000 | .458 | .951       | .250               | .969 | .000 | .361 | .957       | .000       | .000 | .000 | .000 | .000       | .000               | .904 | .933 | 1.00 | .941       | .967       |





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### Groups Printed- Peds

[illegible]



File Name : 7 - Route 31 @ Lakeshore West - 5-14-22

Site Code : 00000007

Start Date : 5/14/2022

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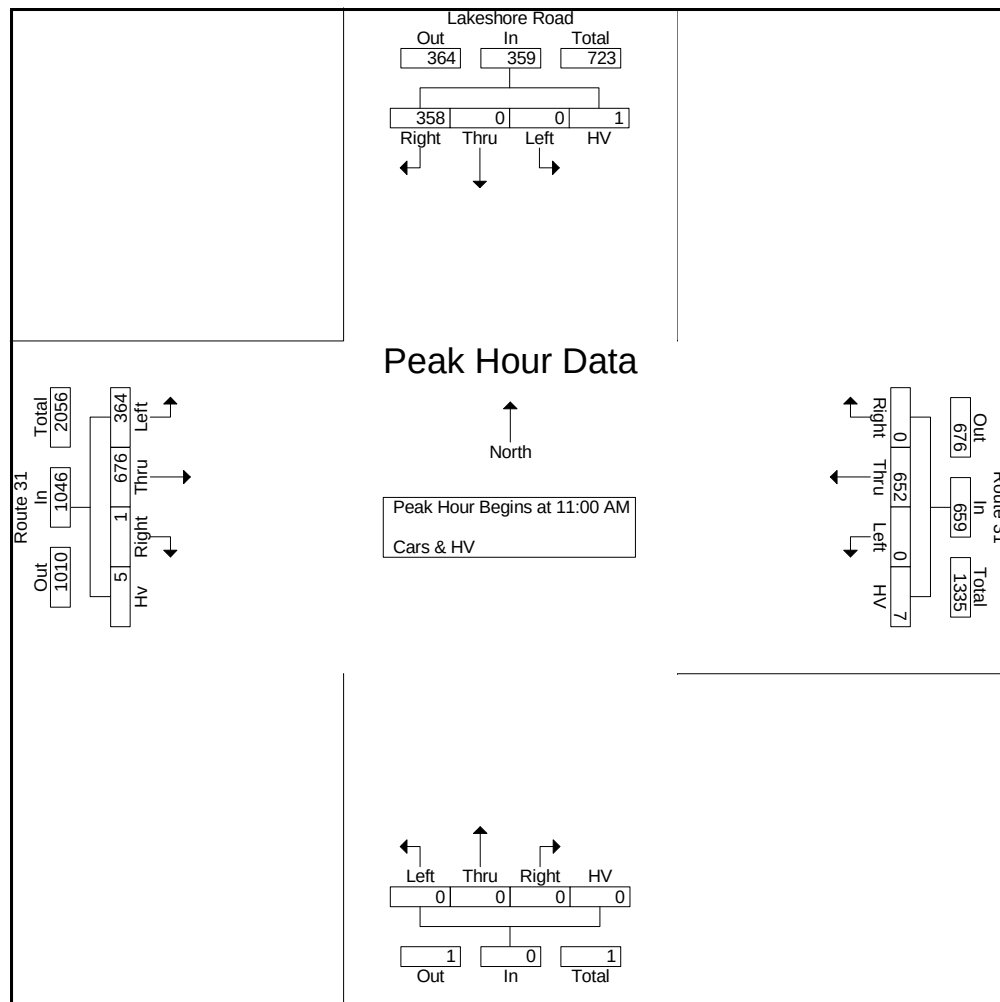
Groups Printed- Cars & HV

|             | Lakeshore Road<br>Southbound |      |      |     | Route 31<br>Westbound |      |      |     | Northbound |      |      |    | Route 31<br>Eastbound |      |      |     | Int. Total |
|-------------|------------------------------|------|------|-----|-----------------------|------|------|-----|------------|------|------|----|-----------------------|------|------|-----|------------|
| Start Time  | Right                        | Thru | Left | HV  | Right                 | Thru | Left | HV  | Right      | Thru | Left | HV | Right                 | Thru | Left | Hv  |            |
| 11:00 AM    | 97                           | 0    | 0    | 0   | 0                     | 155  | 0    | 2   | 0          | 0    | 0    | 0  | 0                     | 147  | 90   | 1   | 492        |
| 11:15 AM    | 86                           | 0    | 0    | 0   | 0                     | 189  | 0    | 0   | 0          | 0    | 0    | 0  | 0                     | 164  | 94   | 2   | 535        |
| 11:30 AM    | 83                           | 0    | 0    | 0   | 0                     | 149  | 0    | 4   | 0          | 0    | 0    | 0  | 1                     | 195  | 85   | 1   | 518        |
| 11:45 AM    | 92                           | 0    | 0    | 1   | 0                     | 159  | 0    | 1   | 0          | 0    | 0    | 0  | 0                     | 170  | 95   | 1   | 519        |
| Total       | 358                          | 0    | 0    | 1   | 0                     | 652  | 0    | 7   | 0          | 0    | 0    | 0  | 1                     | 676  | 364  | 5   | 2064       |
| 12:00 PM    | 70                           | 0    | 1    | 0   | 1                     | 170  | 0    | 1   | 0          | 0    | 0    | 0  | 0                     | 156  | 86   | 0   | 485        |
| 12:15 PM    | 89                           | 0    | 0    | 0   | 0                     | 126  | 0    | 0   | 0          | 0    | 0    | 0  | 0                     | 182  | 77   | 2   | 476        |
| 12:30 PM    | 81                           | 0    | 0    | 1   | 0                     | 179  | 0    | 3   | 0          | 0    | 0    | 0  | 0                     | 183  | 82   | 0   | 529        |
| 12:45 PM    | 90                           | 0    | 0    | 0   | 0                     | 167  | 0    | 0   | 0          | 0    | 0    | 0  | 0                     | 193  | 87   | 1   | 538        |
| Total       | 330                          | 0    | 1    | 1   | 1                     | 642  | 0    | 4   | 0          | 0    | 0    | 0  | 0                     | 714  | 332  | 3   | 2028       |
| Grand Total | 688                          | 0    | 1    | 2   | 1                     | 1294 | 0    | 11  | 0          | 0    | 0    | 0  | 1                     | 1390 | 696  | 8   | 4092       |
| Apprch %    | 99.6                         | 0    | 0.1  | 0.3 | 0.1                   | 99.1 | 0    | 0.8 | 0          | 0    | 0    | 0  | 0                     | 66.3 | 33.2 | 0.4 |            |
| Total %     | 16.8                         | 0    | 0    | 0   | 0                     | 31.6 | 0    | 0.3 | 0          | 0    | 0    | 0  | 0                     | 34   | 17   | 0.2 |            |



File Name : 7 - Route 31 @ Lakeshore West - 5-14-22  
 Site Code : 00000007  
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|                                                            | Lakeshore Road Southbound |      |      |      |            | Route 31 Westbound |      |      |      |            | Northbound |      |      |      |            | Route 31 Eastbound |      |      |      |            |            |
|------------------------------------------------------------|---------------------------|------|------|------|------------|--------------------|------|------|------|------------|------------|------|------|------|------------|--------------------|------|------|------|------------|------------|
| Start Time                                                 | Right                     | Thru | Left | HV   | App. Total | Right              | Thru | Left | HV   | App. Total | Right      | Thru | Left | HV   | App. Total | Right              | Thru | Left | Hv   | App. Total | Int. Total |
| Peak Hour Analysis From 11:00 AM to 12:45 PM - Peak 1 of 1 |                           |      |      |      |            |                    |      |      |      |            |            |      |      |      |            |                    |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 11:00 AM       |                           |      |      |      |            |                    |      |      |      |            |            |      |      |      |            |                    |      |      |      |            |            |
| 11:00 AM                                                   | 97                        | 0    | 0    | 0    | 97         | 0                  | 155  | 0    | 2    | 157        | 0          | 0    | 0    | 0    | 0          | 0                  | 147  | 90   | 1    | 238        | 492        |
| 11:15 AM                                                   | 86                        | 0    | 0    | 0    | 86         | 0                  | 189  | 0    | 0    | 189        | 0          | 0    | 0    | 0    | 0          | 0                  | 164  | 94   | 2    | 260        | 535        |
| 11:30 AM                                                   | 83                        | 0    | 0    | 0    | 83         | 0                  | 149  | 0    | 4    | 153        | 0          | 0    | 0    | 0    | 0          | 1                  | 195  | 85   | 1    | 282        | 518        |
| 11:45 AM                                                   | 92                        | 0    | 0    | 1    | 93         | 0                  | 159  | 0    | 1    | 160        | 0          | 0    | 0    | 0    | 0          | 0                  | 170  | 95   | 1    | 266        | 519        |
| Total Volume                                               | 358                       | 0    | 0    | 1    | 359        | 0                  | 652  | 0    | 7    | 659        | 0          | 0    | 0    | 0    | 0          | 1                  | 676  | 364  | 5    | 1046       | 2064       |
| % App. Total                                               | 99.7                      | 0    | 0    | 0.3  |            | 0                  | 98.9 | 0    | 1.1  |            | 0          | 0    | 0    | 0    |            | 0.1                | 64.6 | 34.8 | 0.5  |            |            |
| PHF                                                        | .923                      | .000 | .000 | .250 | .925       | .000               | .862 | .000 | .438 | .872       | .000       | .000 | .000 | .000 | .000       | .250               | .867 | .958 | .625 | .927       | .964       |





Page No : 1

Groups Printed- Peds

[illegible]



File Name : 8 - Route 31 @ I-81 NB - Pardee Road - 5-18-22

Site Code : 00000008

Start Date : 5/18/2022

Page No : 1

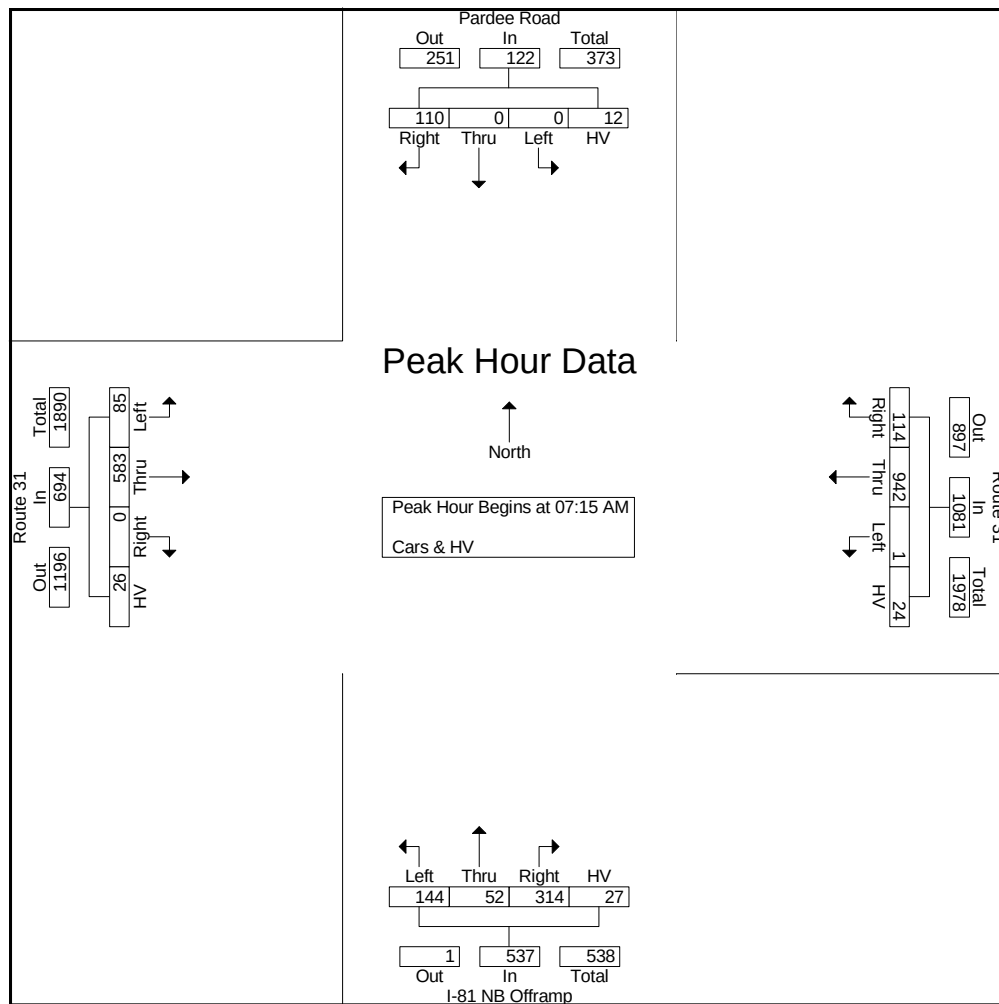
Groups Printed- Cars & HV

|             | Pardee Road<br>Southbound |      |      |     | Route 31<br>Westbound |      |      |     | I-81 NB Offramp<br>Northbound |      |      |     | Route 31<br>Eastbound |      |      |     | Int. Total |
|-------------|---------------------------|------|------|-----|-----------------------|------|------|-----|-------------------------------|------|------|-----|-----------------------|------|------|-----|------------|
| Start Time  | Right                     | Thru | Left | HV  | Right                 | Thru | Left | HV  | Right                         | Thru | Left | HV  | Right                 | Thru | Left | HV  |            |
| 07:00 AM    | 51                        | 0    | 0    | 9   | 24                    | 191  | 0    | 2   | 64                            | 7    | 28   | 2   | 0                     | 116  | 15   | 6   | 515        |
| 07:15 AM    | 31                        | 0    | 0    | 3   | 25                    | 229  | 0    | 5   | 107                           | 11   | 34   | 1   | 0                     | 182  | 16   | 6   | 650        |
| 07:30 AM    | 30                        | 0    | 0    | 2   | 35                    | 253  | 1    | 8   | 69                            | 9    | 28   | 5   | 0                     | 151  | 25   | 5   | 621        |
| 07:45 AM    | 22                        | 0    | 0    | 3   | 34                    | 246  | 0    | 9   | 71                            | 14   | 45   | 9   | 0                     | 132  | 25   | 7   | 617        |
| Total       | 134                       | 0    | 0    | 17  | 118                   | 919  | 1    | 24  | 311                           | 41   | 135  | 17  | 0                     | 581  | 81   | 24  | 2403       |
| 08:00 AM    | 27                        | 0    | 0    | 4   | 20                    | 214  | 0    | 2   | 67                            | 18   | 37   | 12  | 0                     | 118  | 19   | 8   | 546        |
| 08:15 AM    | 18                        | 0    | 0    | 3   | 21                    | 200  | 0    | 10  | 61                            | 11   | 27   | 11  | 0                     | 119  | 30   | 8   | 519        |
| 08:30 AM    | 13                        | 0    | 1    | 1   | 19                    | 189  | 0    | 9   | 44                            | 9    | 23   | 5   | 0                     | 112  | 23   | 5   | 453        |
| 08:45 AM    | 25                        | 0    | 0    | 2   | 33                    | 192  | 0    | 7   | 54                            | 13   | 38   | 10  | 0                     | 164  | 21   | 10  | 569        |
| Total       | 83                        | 0    | 1    | 10  | 93                    | 795  | 0    | 28  | 226                           | 51   | 125  | 38  | 0                     | 513  | 93   | 31  | 2087       |
| 04:00 PM    | 25                        | 0    | 0    | 0   | 38                    | 222  | 0    | 7   | 110                           | 18   | 74   | 5   | 0                     | 215  | 47   | 6   | 767        |
| 04:15 PM    | 26                        | 0    | 0    | 3   | 54                    | 207  | 0    | 14  | 111                           | 15   | 73   | 9   | 1                     | 142  | 50   | 7   | 712        |
| 04:30 PM    | 21                        | 0    | 0    | 0   | 42                    | 213  | 0    | 18  | 123                           | 21   | 82   | 16  | 0                     | 160  | 47   | 5   | 748        |
| 04:45 PM    | 18                        | 0    | 0    | 0   | 66                    | 206  | 0    | 2   | 164                           | 31   | 91   | 7   | 0                     | 172  | 50   | 5   | 812        |
| Total       | 90                        | 0    | 0    | 3   | 200                   | 848  | 0    | 41  | 508                           | 85   | 320  | 37  | 1                     | 689  | 194  | 23  | 3039       |
| 05:00 PM    | 47                        | 0    | 0    | 1   | 85                    | 193  | 0    | 4   | 100                           | 30   | 61   | 11  | 0                     | 189  | 53   | 7   | 781        |
| 05:15 PM    | 28                        | 0    | 0    | 0   | 48                    | 192  | 0    | 2   | 128                           | 24   | 80   | 9   | 0                     | 184  | 56   | 4   | 755        |
| 05:30 PM    | 17                        | 0    | 0    | 0   | 40                    | 195  | 0    | 3   | 95                            | 23   | 60   | 4   | 0                     | 198  | 49   | 3   | 687        |
| 05:45 PM    | 22                        | 0    | 0    | 1   | 34                    | 190  | 0    | 2   | 92                            | 10   | 61   | 4   | 0                     | 191  | 50   | 6   | 663        |
| Total       | 114                       | 0    | 0    | 2   | 207                   | 770  | 0    | 11  | 415                           | 87   | 262  | 28  | 0                     | 762  | 208  | 20  | 2886       |
| Grand Total | 421                       | 0    | 1    | 32  | 618                   | 3332 | 1    | 104 | 1460                          | 264  | 842  | 120 | 1                     | 2545 | 576  | 98  | 10415      |
| Apprch %    | 92.7                      | 0    | 0.2  | 7   | 15.2                  | 82.2 | 0    | 2.6 | 54.4                          | 9.8  | 31.3 | 4.5 | 0                     | 79   | 17.9 | 3   |            |
| Total %     | 4                         | 0    | 0    | 0.3 | 5.9                   | 32   | 0    | 1   | 14                            | 2.5  | 8.1  | 1.2 | 0                     | 24.4 | 5.5  | 0.9 |            |



File Name : 8 - Route 31 @ I-81 NB - Pardee Road - 5-18-22  
 Site Code : 00000008  
 Start Date : 5/18/2022  
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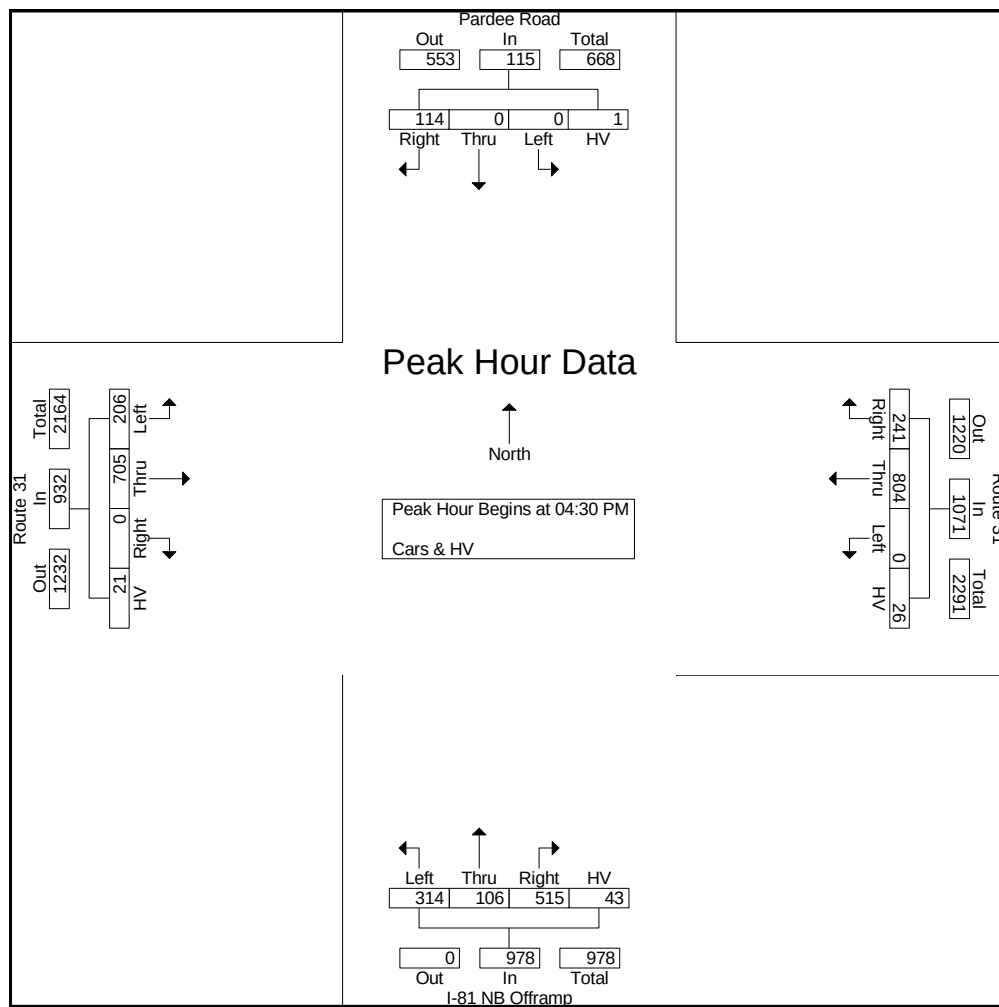
|                                                            | Pardee Road Southbound |      |      |      |            | Route 31 Westbound |      |      |      |            | I-81 NB Offramp Northbound |      |      |      |            | Route 31 Eastbound |      |      |      |            |            |
|------------------------------------------------------------|------------------------|------|------|------|------------|--------------------|------|------|------|------------|----------------------------|------|------|------|------------|--------------------|------|------|------|------------|------------|
| Start Time                                                 | Right                  | Thru | Left | HV   | App. Total | Right              | Thru | Left | HV   | App. Total | Right                      | Thru | Left | HV   | App. Total | Right              | Thru | Left | HV   | App. Total | Int. Total |
| Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1 |                        |      |      |      |            |                    |      |      |      |            |                            |      |      |      |            |                    |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 07:15 AM       |                        |      |      |      |            |                    |      |      |      |            |                            |      |      |      |            |                    |      |      |      |            |            |
| 07:15 AM                                                   | 31                     | 0    | 0    | 3    | 34         | 25                 | 229  | 0    | 5    | 259        | 107                        | 11   | 34   | 1    | 153        | 0                  | 182  | 16   | 6    | 204        | 650        |
| 07:30 AM                                                   | 30                     | 0    | 0    | 2    | 32         | 35                 | 253  | 1    | 8    | 297        | 69                         | 9    | 28   | 5    | 111        | 0                  | 151  | 25   | 5    | 181        | 621        |
| 07:45 AM                                                   | 22                     | 0    | 0    | 3    | 25         | 34                 | 246  | 0    | 9    | 289        | 71                         | 14   | 45   | 9    | 139        | 0                  | 132  | 25   | 7    | 164        | 617        |
| 08:00 AM                                                   | 27                     | 0    | 0    | 4    | 31         | 20                 | 214  | 0    | 2    | 236        | 67                         | 18   | 37   | 12   | 134        | 0                  | 118  | 19   | 8    | 145        | 546        |
| Total Volume                                               | 110                    | 0    | 0    | 12   | 122        | 114                | 942  | 1    | 24   | 1081       | 314                        | 52   | 144  | 27   | 537        | 0                  | 583  | 85   | 26   | 694        | 2434       |
| % App. Total                                               | 90.2                   | 0    | 0    | 9.8  |            | 10.5               | 87.1 | 0.1  | 2.2  |            | 58.5                       | 9.7  | 26.8 | 5    |            | 0                  | 84   | 12.2 | 3.7  |            |            |
| PHF                                                        | .887                   | .000 | .000 | .750 | .897       | .814               | .931 | .250 | .667 | .910       | .734                       | .722 | .800 | .563 | .877       | .000               | .801 | .850 | .813 | .850       | .936       |





File Name : 8 - Route 31 @ I-81 NB - Pardee Road - 5-18-22  
 Site Code : 00000008  
 Start Date : 5/18/2022  
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|                                                            | Pardee Road Southbound |      |      |      |            | Route 31 Westbound |      |      |      |            | I-81 NB Offramp Northbound |      |      |      |            | Route 31 Eastbound |      |      |      |            |            |
|------------------------------------------------------------|------------------------|------|------|------|------------|--------------------|------|------|------|------------|----------------------------|------|------|------|------------|--------------------|------|------|------|------------|------------|
| Start Time                                                 | Right                  | Thru | Left | HV   | App. Total | Right              | Thru | Left | HV   | App. Total | Right                      | Thru | Left | HV   | App. Total | Right              | Thru | Left | HV   | App. Total | Int. Total |
| Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1 |                        |      |      |      |            |                    |      |      |      |            |                            |      |      |      |            |                    |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 04:30 PM       |                        |      |      |      |            |                    |      |      |      |            |                            |      |      |      |            |                    |      |      |      |            |            |
| 04:30 PM                                                   | 21                     | 0    | 0    | 0    | 21         | 42                 | 213  | 0    | 18   | 273        | 123                        | 21   | 82   | 16   | 242        | 0                  | 160  | 47   | 5    | 212        | 748        |
| 04:45 PM                                                   | 18                     | 0    | 0    | 0    | 18         | 66                 | 206  | 0    | 2    | 274        | 164                        | 31   | 91   | 7    | 293        | 0                  | 172  | 50   | 5    | 227        | 812        |
| 05:00 PM                                                   | 47                     | 0    | 0    | 1    | 48         | 85                 | 193  | 0    | 4    | 282        | 100                        | 30   | 61   | 11   | 202        | 0                  | 189  | 53   | 7    | 249        | 781        |
| 05:15 PM                                                   | 28                     | 0    | 0    | 0    | 28         | 48                 | 192  | 0    | 2    | 242        | 128                        | 24   | 80   | 9    | 241        | 0                  | 184  | 56   | 4    | 244        | 755        |
| Total Volume                                               | 114                    | 0    | 0    | 1    | 115        | 241                | 804  | 0    | 26   | 1071       | 515                        | 106  | 314  | 43   | 978        | 0                  | 705  | 206  | 21   | 932        | 3096       |
| % App. Total                                               | 99.1                   | 0    | 0    | 0.9  |            | 22.5               | 75.1 | 0    | 2.4  |            | 52.7                       | 10.8 | 32.1 | 4.4  |            | 0                  | 75.6 | 22.1 | 2.3  |            |            |
| PHF                                                        | .606                   | .000 | .000 | .250 | .599       | .709               | .944 | .000 | .361 | .949       | .785                       | .855 | .863 | .672 | .834       | .000               | .933 | .920 | .750 | .936       | .953       |





File Name : 8 - Route 31 @ I-81 NB - Pardee Road - 5-18-22  
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Groups Printed- Peds

|             | Pardee Road<br>Southbound |      |      |      | Route 31<br>Westbound |      |      |      | I-81 NB Offramp<br>Northbound |      |      |      | Route 31<br>Eastbound |      |      |      | Int. Total |
|-------------|---------------------------|------|------|------|-----------------------|------|------|------|-------------------------------|------|------|------|-----------------------|------|------|------|------------|
| Start Time  | Right                     | Thru | Left | Peds | Right                 | Thru | Left | Peds | Right                         | Thru | Left | Peds | Right                 | Thru | Left | Peds |            |
| 04:30 PM    | 0                         | 0    | 0    | 1    | 0                     | 0    | 0    | 0    | 0                             | 0    | 0    | 2    | 0                     | 0    | 0    | 0    | 3          |
| Total       | 0                         | 0    | 0    | 1    | 0                     | 0    | 0    | 0    | 0                             | 0    | 0    | 2    | 0                     | 0    | 0    | 0    | 3          |
| Grand Total | 0                         | 0    | 0    | 1    | 0                     | 0    | 0    | 0    | 0                             | 0    | 0    | 2    | 0                     | 0    | 0    | 0    | 3          |
| Apprch %    | 0                         | 0    | 0    | 100  | 0                     | 0    | 0    | 0    | 0                             | 0    | 0    | 100  | 0                     | 0    | 0    | 0    |            |
| Total %     | 0                         | 0    | 0    | 33.3 | 0                     | 0    | 0    | 0    | 0                             | 0    | 0    | 66.7 | 0                     | 0    | 0    | 0    |            |



File Name : 8 - Route 31 @ I-81 NB - Pardee Road - 5-19-22

Site Code : 00000008

Start Date : 5/19/2022

Page No : 1

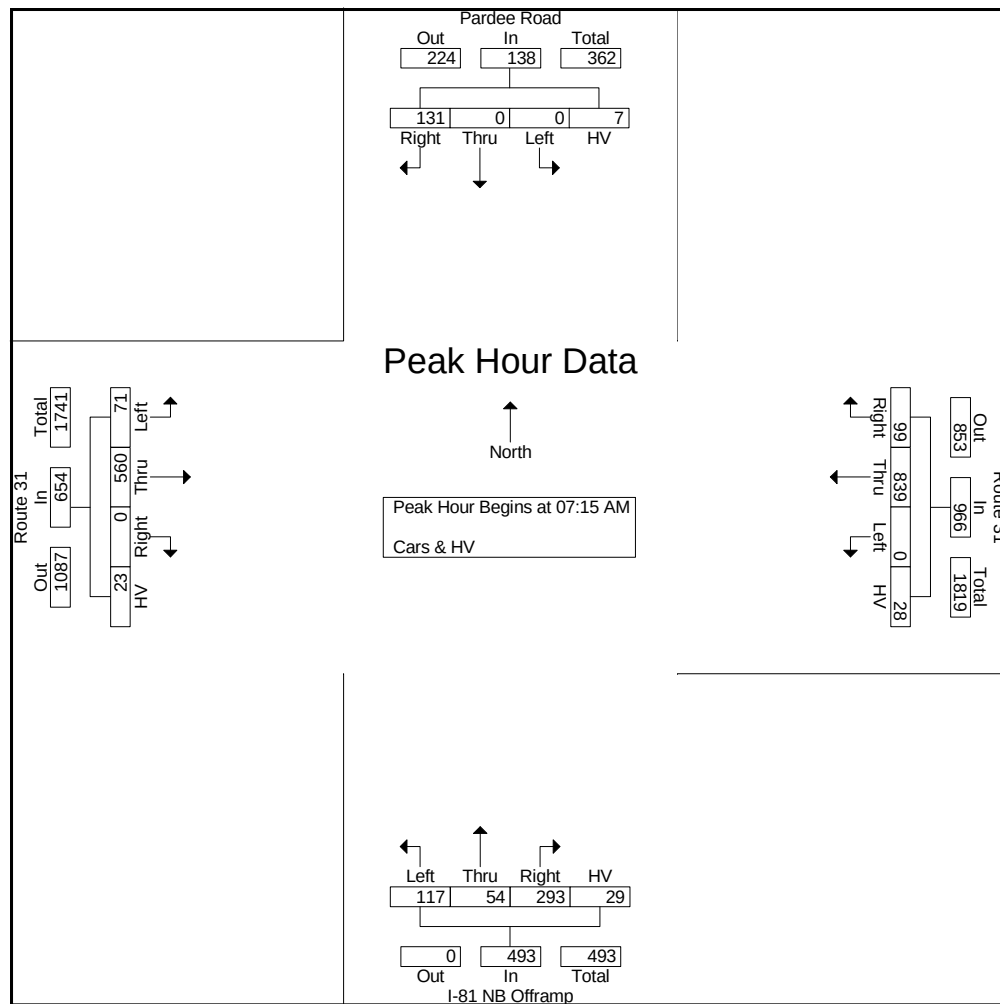
Groups Printed- Cars & HV

|             | Pardee Road<br>Southbound |      |      |     | Route 31<br>Westbound |      |      |     | I-81 NB Offramp<br>Northbound |      |      |     | Route 31<br>Eastbound |      |      |     | Int. Total |
|-------------|---------------------------|------|------|-----|-----------------------|------|------|-----|-------------------------------|------|------|-----|-----------------------|------|------|-----|------------|
| Start Time  | Right                     | Thru | Left | HV  | Right                 | Thru | Left | HV  | Right                         | Thru | Left | HV  | Right                 | Thru | Left | HV  |            |
| 07:00 AM    | 43                        | 0    | 0    | 1   | 23                    | 172  | 0    | 1   | 53                            | 6    | 18   | 1   | 0                     | 115  | 19   | 4   | 456        |
| 07:15 AM    | 31                        | 0    | 0    | 1   | 24                    | 224  | 0    | 5   | 93                            | 13   | 26   | 5   | 0                     | 186  | 13   | 4   | 625        |
| 07:30 AM    | 35                        | 0    | 0    | 3   | 29                    | 230  | 0    | 10  | 74                            | 14   | 23   | 5   | 0                     | 148  | 15   | 4   | 590        |
| 07:45 AM    | 42                        | 0    | 0    | 2   | 20                    | 202  | 0    | 5   | 67                            | 15   | 32   | 5   | 0                     | 113  | 17   | 1   | 521        |
| Total       | 151                       | 0    | 0    | 7   | 96                    | 828  | 0    | 21  | 287                           | 48   | 99   | 16  | 0                     | 562  | 64   | 13  | 2192       |
| 08:00 AM    | 23                        | 0    | 0    | 1   | 26                    | 183  | 0    | 8   | 59                            | 12   | 36   | 14  | 0                     | 113  | 26   | 14  | 515        |
| 08:15 AM    | 31                        | 0    | 0    | 5   | 25                    | 196  | 0    | 11  | 56                            | 18   | 36   | 17  | 1                     | 90   | 25   | 6   | 517        |
| 08:30 AM    | 23                        | 0    | 0    | 4   | 22                    | 166  | 0    | 12  | 50                            | 15   | 35   | 9   | 0                     | 105  | 30   | 9   | 480        |
| 08:45 AM    | 17                        | 0    | 0    | 4   | 21                    | 175  | 0    | 8   | 44                            | 8    | 48   | 8   | 0                     | 152  | 34   | 9   | 528        |
| Total       | 94                        | 0    | 0    | 14  | 94                    | 720  | 0    | 39  | 209                           | 53   | 155  | 48  | 1                     | 460  | 115  | 38  | 2040       |
| 04:00 PM    | 31                        | 0    | 0    | 3   | 48                    | 181  | 0    | 5   | 82                            | 22   | 77   | 27  | 0                     | 188  | 63   | 6   | 733        |
| 04:15 PM    | 12                        | 0    | 0    | 5   | 54                    | 213  | 0    | 8   | 99                            | 20   | 65   | 7   | 1                     | 167  | 67   | 10  | 728        |
| 04:30 PM    | 37                        | 0    | 0    | 3   | 57                    | 193  | 0    | 5   | 107                           | 24   | 81   | 13  | 0                     | 152  | 54   | 5   | 731        |
| 04:45 PM    | 29                        | 0    | 0    | 2   | 47                    | 163  | 0    | 7   | 151                           | 19   | 90   | 6   | 0                     | 193  | 67   | 10  | 784        |
| Total       | 109                       | 0    | 0    | 13  | 206                   | 750  | 0    | 25  | 439                           | 85   | 313  | 53  | 1                     | 700  | 251  | 31  | 2976       |
| 05:00 PM    | 25                        | 0    | 0    | 0   | 51                    | 202  | 0    | 4   | 106                           | 28   | 67   | 5   | 0                     | 168  | 78   | 10  | 744        |
| 05:15 PM    | 22                        | 0    | 0    | 2   | 50                    | 238  | 0    | 8   | 136                           | 28   | 76   | 4   | 0                     | 176  | 55   | 3   | 798        |
| 05:30 PM    | 29                        | 0    | 0    | 2   | 59                    | 231  | 0    | 6   | 95                            | 25   | 47   | 7   | 0                     | 179  | 59   | 1   | 740        |
| 05:45 PM    | 27                        | 0    | 0    | 1   | 36                    | 182  | 0    | 1   | 92                            | 23   | 53   | 5   | 0                     | 183  | 79   | 6   | 688        |
| Total       | 103                       | 0    | 0    | 5   | 196                   | 853  | 0    | 19  | 429                           | 104  | 243  | 21  | 0                     | 706  | 271  | 20  | 2970       |
| Grand Total | 457                       | 0    | 0    | 39  | 592                   | 3151 | 0    | 104 | 1364                          | 290  | 810  | 138 | 2                     | 2428 | 701  | 102 | 10178      |
| Apprch %    | 92.1                      | 0    | 0    | 7.9 | 15.4                  | 81.9 | 0    | 2.7 | 52.4                          | 11.1 | 31.1 | 5.3 | 0.1                   | 75.1 | 21.7 | 3.2 |            |
| Total %     | 4.5                       | 0    | 0    | 0.4 | 5.8                   | 31   | 0    | 1   | 13.4                          | 2.8  | 8    | 1.4 | 0                     | 23.9 | 6.9  | 1   |            |



File Name : 8 - Route 31 @ I-81 NB - Pardee Road - 5-19-22  
 Site Code : 00000008  
 Start Date : 5/19/2022  
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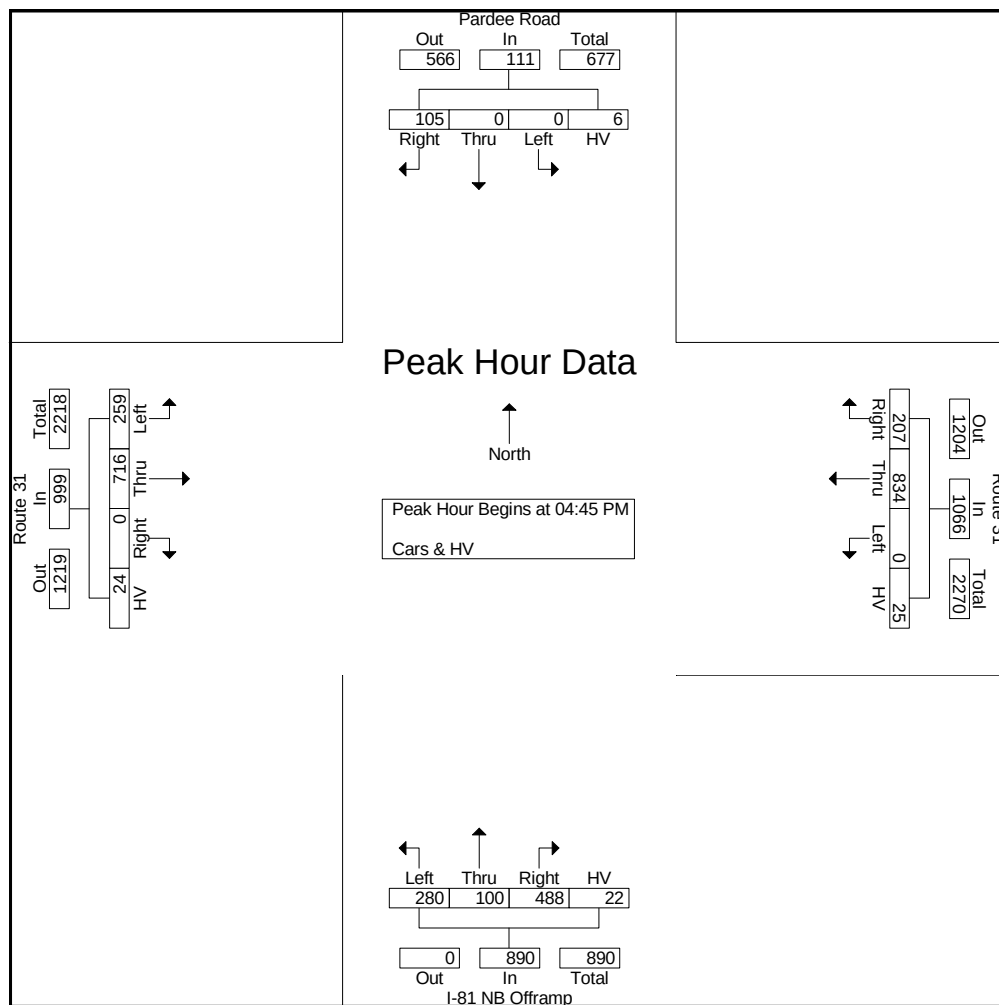
|                                                            | Pardee Road Southbound |      |      |      |            | Route 31 Westbound |      |      |      |            | I-81 NB Offramp Northbound |      |      |      |            | Route 31 Eastbound |      |      |      |            |            |
|------------------------------------------------------------|------------------------|------|------|------|------------|--------------------|------|------|------|------------|----------------------------|------|------|------|------------|--------------------|------|------|------|------------|------------|
| Start Time                                                 | Right                  | Thru | Left | HV   | App. Total | Right              | Thru | Left | HV   | App. Total | Right                      | Thru | Left | HV   | App. Total | Right              | Thru | Left | HV   | App. Total | Int. Total |
| Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1 |                        |      |      |      |            |                    |      |      |      |            |                            |      |      |      |            |                    |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 07:15 AM       |                        |      |      |      |            |                    |      |      |      |            |                            |      |      |      |            |                    |      |      |      |            |            |
| 07:15 AM                                                   | 31                     | 0    | 0    | 1    | 32         | 24                 | 224  | 0    | 5    | 253        | 93                         | 13   | 26   | 5    | 137        | 0                  | 186  | 13   | 4    | 203        | 625        |
| 07:30 AM                                                   | 35                     | 0    | 0    | 3    | 38         | 29                 | 230  | 0    | 10   | 269        | 74                         | 14   | 23   | 5    | 116        | 0                  | 148  | 15   | 4    | 167        | 590        |
| 07:45 AM                                                   | 42                     | 0    | 0    | 2    | 44         | 20                 | 202  | 0    | 5    | 227        | 67                         | 15   | 32   | 5    | 119        | 0                  | 113  | 17   | 1    | 131        | 521        |
| 08:00 AM                                                   | 23                     | 0    | 0    | 1    | 24         | 26                 | 183  | 0    | 8    | 217        | 59                         | 12   | 36   | 14   | 121        | 0                  | 113  | 26   | 14   | 153        | 515        |
| Total Volume                                               | 131                    | 0    | 0    | 7    | 138        | 99                 | 839  | 0    | 28   | 966        | 293                        | 54   | 117  | 29   | 493        | 0                  | 560  | 71   | 23   | 654        | 2251       |
| % App. Total                                               | 94.9                   | 0    | 0    | 5.1  |            | 10.2               | 86.9 | 0    | 2.9  |            | 59.4                       | 11   | 23.7 | 5.9  |            | 0                  | 85.6 | 10.9 | 3.5  |            |            |
| PHF                                                        | .780                   | .000 | .000 | .583 | .784       | .853               | .912 | .000 | .700 | .898       | .788                       | .900 | .813 | .518 | .900       | .000               | .753 | .683 | .411 | .805       | .900       |





File Name : 8 - Route 31 @ I-81 NB - Pardee Road - 5-19-22  
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|                                                            | Pardee Road Southbound |      |      |      |            | Route 31 Westbound |      |      |      |            | I-81 NB Offramp Northbound |      |      |      |            | Route 31 Eastbound |      |      |      |            |            |
|------------------------------------------------------------|------------------------|------|------|------|------------|--------------------|------|------|------|------------|----------------------------|------|------|------|------------|--------------------|------|------|------|------------|------------|
| Start Time                                                 | Right                  | Thru | Left | HV   | App. Total | Right              | Thru | Left | HV   | App. Total | Right                      | Thru | Left | HV   | App. Total | Right              | Thru | Left | HV   | App. Total | Int. Total |
| Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1 |                        |      |      |      |            |                    |      |      |      |            |                            |      |      |      |            |                    |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 04:45 PM       |                        |      |      |      |            |                    |      |      |      |            |                            |      |      |      |            |                    |      |      |      |            |            |
| 04:45 PM                                                   | 29                     | 0    | 0    | 2    | 31         | 47                 | 163  | 0    | 7    | 217        | 151                        | 19   | 90   | 6    | 266        | 0                  | 193  | 67   | 10   | 270        | 784        |
| 05:00 PM                                                   | 25                     | 0    | 0    | 0    | 25         | 51                 | 202  | 0    | 4    | 257        | 106                        | 28   | 67   | 5    | 206        | 0                  | 168  | 78   | 10   | 256        | 744        |
| 05:15 PM                                                   | 22                     | 0    | 0    | 2    | 24         | 50                 | 238  | 0    | 8    | 296        | 136                        | 28   | 76   | 4    | 244        | 0                  | 176  | 55   | 3    | 234        | 798        |
| 05:30 PM                                                   | 29                     | 0    | 0    | 2    | 31         | 59                 | 231  | 0    | 6    | 296        | 95                         | 25   | 47   | 7    | 174        | 0                  | 179  | 59   | 1    | 239        | 740        |
| Total Volume                                               | 105                    | 0    | 0    | 6    | 111        | 207                | 834  | 0    | 25   | 1066       | 488                        | 100  | 280  | 22   | 890        | 0                  | 716  | 259  | 24   | 999        | 3066       |
| % App. Total                                               | 94.6                   | 0    | 0    | 5.4  |            | 19.4               | 78.2 | 0    | 2.3  |            | 54.8                       | 11.2 | 31.5 | 2.5  |            | 0                  | 71.7 | 25.9 | 2.4  |            |            |
| PHF                                                        | .905                   | .000 | .000 | .750 | .895       | .877               | .876 | .000 | .781 | .900       | .808                       | .893 | .778 | .786 | .836       | .000               | .927 | .830 | .600 | .925       | .961       |





File Name : 8 - Route 31 @ I-81 NB - Pardee Road - 5-19-22  
 Site Code : 00000008  
 Start Date : 5/19/2022  
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Groups Printed- Peds

|             | Pardee Road<br>Southbound |      |      |      | Route 31<br>Westbound |      |      |      | I-81 NB Offramp<br>Northbound |      |      |      | Route 31<br>Eastbound |      |      |      | Int. Total |
|-------------|---------------------------|------|------|------|-----------------------|------|------|------|-------------------------------|------|------|------|-----------------------|------|------|------|------------|
| Start Time  | Right                     | Thru | Left | Peds | Right                 | Thru | Left | Peds | Right                         | Thru | Left | Peds | Right                 | Thru | Left | Peds |            |
| 07:15 AM    | 0                         | 0    | 0    | 1    | 0                     | 0    | 0    | 1    | 0                             | 0    | 0    | 0    | 0                     | 0    | 0    | 1    | 3          |
| 07:45 AM    | 0                         | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 0                             | 0    | 0    | 1    | 0                     | 0    | 0    | 0    | 1          |
| Total       | 0                         | 0    | 0    | 1    | 0                     | 0    | 0    | 1    | 0                             | 0    | 0    | 1    | 0                     | 0    | 0    | 1    | 4          |
| 08:15 AM    | 0                         | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 0                             | 0    | 0    | 1    | 0                     | 0    | 0    | 0    | 1          |
| Total       | 0                         | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 0                             | 0    | 0    | 1    | 0                     | 0    | 0    | 0    | 1          |
| 04:15 PM    | 0                         | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 0                             | 0    | 0    | 1    | 0                     | 0    | 0    | 0    | 1          |
| 04:30 PM    | 0                         | 0    | 0    | 3    | 0                     | 0    | 0    | 0    | 0                             | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 3          |
| 04:45 PM    | 0                         | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 0                             | 0    | 0    | 1    | 0                     | 0    | 0    | 0    | 1          |
| Total       | 0                         | 0    | 0    | 3    | 0                     | 0    | 0    | 0    | 0                             | 0    | 0    | 2    | 0                     | 0    | 0    | 0    | 5          |
| 05:15 PM    | 0                         | 0    | 0    | 1    | 0                     | 0    | 0    | 0    | 0                             | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 1          |
| Total       | 0                         | 0    | 0    | 1    | 0                     | 0    | 0    | 0    | 0                             | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 1          |
| Grand Total | 0                         | 0    | 0    | 5    | 0                     | 0    | 0    | 1    | 0                             | 0    | 0    | 4    | 0                     | 0    | 0    | 1    | 11         |
| Apprch %    | 0                         | 0    | 0    | 100  | 0                     | 0    | 0    | 100  | 0                             | 0    | 0    | 100  | 0                     | 0    | 0    | 100  |            |
| Total %     | 0                         | 0    | 0    | 45.5 | 0                     | 0    | 0    | 9.1  | 0                             | 0    | 0    | 36.4 | 0                     | 0    | 0    | 9.1  |            |



File Name : 8 - Route 31 @ I-81 NB - Pardee Road - 5-21-22

Site Code : 00000008

Start Date : 5/21/2022

Page No : 1

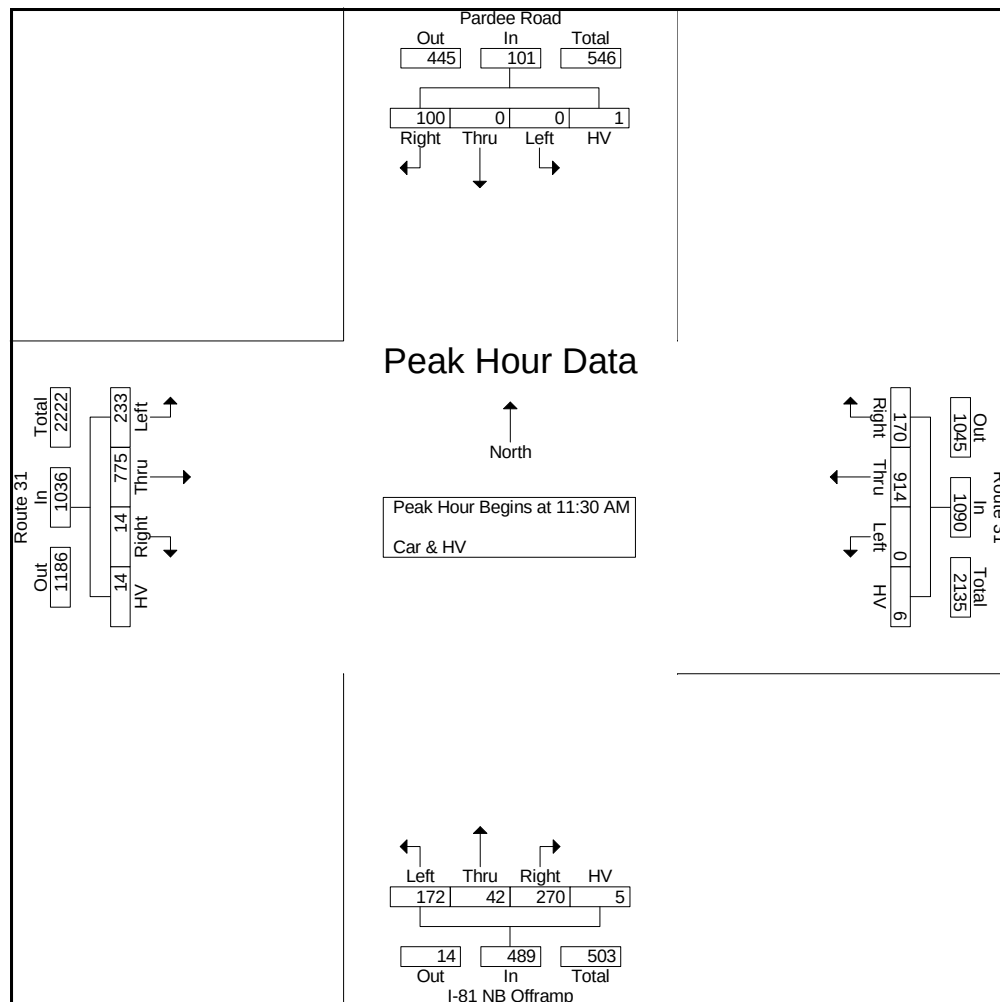
Groups Printed- Car & HV

|             | Pardee Road<br>Southbound |      |      |     | Route 31<br>Westbound |      |      |     | I-81 NB Offramp<br>Northbound |      |      |     | Route 31<br>Eastbound |      |      |     | Int. Total |
|-------------|---------------------------|------|------|-----|-----------------------|------|------|-----|-------------------------------|------|------|-----|-----------------------|------|------|-----|------------|
| Start Time  | Right                     | Thru | Left | HV  | Right                 | Thru | Left | HV  | Right                         | Thru | Left | HV  | Right                 | Thru | Left | HV  |            |
| 11:00 AM    | 23                        | 0    | 0    | 0   | 46                    | 202  | 0    | 4   | 49                            | 9    | 35   | 1   | 0                     | 200  | 59   | 1   | 629        |
| 11:15 AM    | 30                        | 0    | 0    | 1   | 39                    | 205  | 0    | 2   | 59                            | 7    | 36   | 4   | 4                     | 190  | 45   | 2   | 624        |
| 11:30 AM    | 20                        | 0    | 0    | 0   | 45                    | 246  | 0    | 2   | 61                            | 9    | 36   | 1   | 0                     | 194  | 52   | 1   | 667        |
| 11:45 AM    | 25                        | 0    | 0    | 1   | 45                    | 203  | 0    | 1   | 68                            | 14   | 48   | 1   | 14                    | 201  | 51   | 5   | 677        |
| Total       | 98                        | 0    | 0    | 2   | 175                   | 856  | 0    | 9   | 237                           | 39   | 155  | 7   | 18                    | 785  | 207  | 9   | 2597       |
| 12:00 PM    | 26                        | 0    | 0    | 0   | 47                    | 242  | 0    | 2   | 67                            | 9    | 47   | 1   | 0                     | 170  | 58   | 6   | 675        |
| 12:15 PM    | 29                        | 0    | 0    | 0   | 33                    | 223  | 0    | 1   | 74                            | 10   | 41   | 2   | 0                     | 210  | 72   | 2   | 697        |
| 12:30 PM    | 19                        | 0    | 0    | 0   | 40                    | 193  | 0    | 1   | 59                            | 19   | 44   | 0   | 0                     | 207  | 60   | 2   | 644        |
| 12:45 PM    | 16                        | 0    | 0    | 0   | 45                    | 189  | 0    | 1   | 69                            | 23   | 47   | 2   | 0                     | 174  | 58   | 2   | 626        |
| Total       | 90                        | 0    | 0    | 0   | 165                   | 847  | 0    | 5   | 269                           | 61   | 179  | 5   | 0                     | 761  | 248  | 12  | 2642       |
| Grand Total | 188                       | 0    | 0    | 2   | 340                   | 1703 | 0    | 14  | 506                           | 100  | 334  | 12  | 18                    | 1546 | 455  | 21  | 5239       |
| Apprch %    | 98.9                      | 0    | 0    | 1.1 | 16.5                  | 82.8 | 0    | 0.7 | 53.2                          | 10.5 | 35.1 | 1.3 | 0.9                   | 75.8 | 22.3 | 1   |            |
| Total %     | 3.6                       | 0    | 0    | 0   | 6.5                   | 32.5 | 0    | 0.3 | 9.7                           | 1.9  | 6.4  | 0.2 | 0.3                   | 29.5 | 8.7  | 0.4 |            |



File Name : 8 - Route 31 @ I-81 NB - Pardee Road - 5-21-22  
 Site Code : 00000008  
 Start Date : 5/21/2022  
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|                                                            | Pardee Road Southbound |      |      |      |            | Route 31 Westbound |      |      |      |            | I-81 NB Offramp Northbound |      |      |      |            | Route 31 Eastbound |      |      |      |            |            |
|------------------------------------------------------------|------------------------|------|------|------|------------|--------------------|------|------|------|------------|----------------------------|------|------|------|------------|--------------------|------|------|------|------------|------------|
| Start Time                                                 | Right                  | Thru | Left | HV   | App. Total | Right              | Thru | Left | HV   | App. Total | Right                      | Thru | Left | HV   | App. Total | Right              | Thru | Left | HV   | App. Total | Int. Total |
| Peak Hour Analysis From 11:00 AM to 12:45 PM - Peak 1 of 1 |                        |      |      |      |            |                    |      |      |      |            |                            |      |      |      |            |                    |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 11:30 AM       |                        |      |      |      |            |                    |      |      |      |            |                            |      |      |      |            |                    |      |      |      |            |            |
| 11:30 AM                                                   | 20                     | 0    | 0    | 0    | 20         | 45                 | 246  | 0    | 2    | 293        | 61                         | 9    | 36   | 1    | 107        | 0                  | 194  | 52   | 1    | 247        | 667        |
| 11:45 AM                                                   | 25                     | 0    | 0    | 1    | 26         | 45                 | 203  | 0    | 1    | 249        | 68                         | 14   | 48   | 1    | 131        | 14                 | 201  | 51   | 5    | 271        | 677        |
| 12:00 PM                                                   | 26                     | 0    | 0    | 0    | 26         | 47                 | 242  | 0    | 2    | 291        | 67                         | 9    | 47   | 1    | 124        | 0                  | 170  | 58   | 6    | 234        | 675        |
| 12:15 PM                                                   | 29                     | 0    | 0    | 0    | 29         | 33                 | 223  | 0    | 1    | 257        | 74                         | 10   | 41   | 2    | 127        | 0                  | 210  | 72   | 2    | 284        | 697        |
| Total Volume                                               | 100                    | 0    | 0    | 1    | 101        | 170                | 914  | 0    | 6    | 1090       | 270                        | 42   | 172  | 5    | 489        | 14                 | 775  | 233  | 14   | 1036       | 2716       |
| % App. Total                                               | 99                     | 0    | 0    | 1    |            | 15.6               | 83.9 | 0    | 0.6  |            | 55.2                       | 8.6  | 35.2 | 1    |            | 1.4                | 74.8 | 22.5 | 1.4  |            |            |
| PHF                                                        | .862                   | .000 | .000 | .250 | .871       | .904               | .929 | .000 | .750 | .930       | .912                       | .750 | .896 | .625 | .933       | .250               | .923 | .809 | .583 | .912       | .974       |





File Name : 9 - Route 31 @ I-81 SB Ramps - 5-11-22

Site Code : 00000009

Start Date : 5/11/2022

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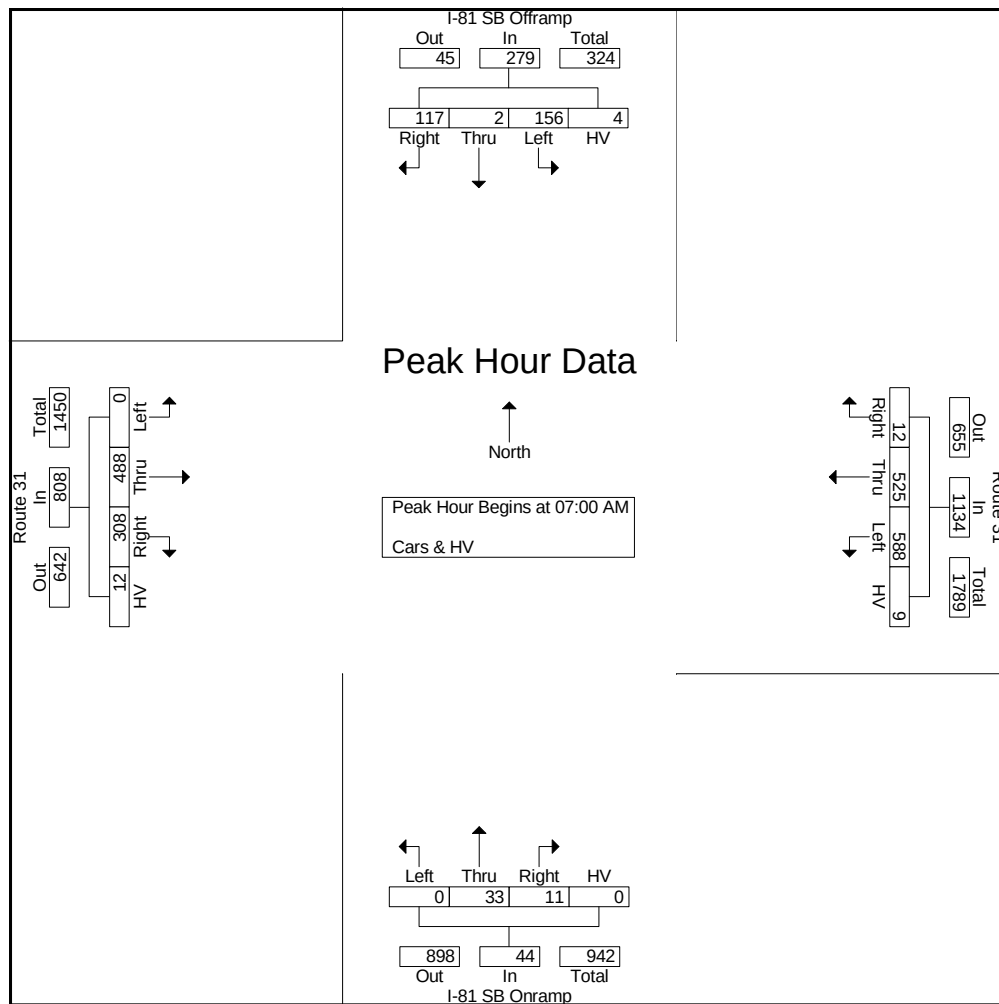
Groups Printed- Cars & HV

|             | I-81 SB Offramp<br>Southbound |      |      |     | Route 31<br>Westbound |      |      |     | I-81 SB Onramp<br>Northbound |      |      |    | Route 31<br>Eastbound |      |      |     |            |
|-------------|-------------------------------|------|------|-----|-----------------------|------|------|-----|------------------------------|------|------|----|-----------------------|------|------|-----|------------|
| Start Time  | Right                         | Thru | Left | HV  | Right                 | Thru | Left | HV  | Right                        | Thru | Left | HV | Right                 | Thru | Left | HV  | Int. Total |
| 07:00 AM    | 20                            | 0    | 41   | 1   | 6                     | 124  | 143  | 5   | 11                           | 33   | 0    | 0  | 48                    | 96   | 0    | 2   | 530        |
| 07:15 AM    | 32                            | 2    | 39   | 1   | 0                     | 119  | 177  | 1   | 0                            | 0    | 0    | 0  | 80                    | 122  | 0    | 4   | 577        |
| 07:30 AM    | 26                            | 0    | 40   | 1   | 0                     | 135  | 127  | 0   | 0                            | 0    | 0    | 0  | 78                    | 136  | 0    | 6   | 549        |
| 07:45 AM    | 39                            | 0    | 36   | 1   | 6                     | 147  | 141  | 3   | 0                            | 0    | 0    | 0  | 102                   | 134  | 0    | 0   | 609        |
| Total       | 117                           | 2    | 156  | 4   | 12                    | 525  | 588  | 9   | 11                           | 33   | 0    | 0  | 308                   | 488  | 0    | 12  | 2265       |
| 08:00 AM    | 25                            | 1    | 33   | 2   | 0                     | 143  | 94   | 0   | 0                            | 0    | 0    | 0  | 69                    | 111  | 0    | 3   | 481        |
| 08:15 AM    | 29                            | 0    | 22   | 2   | 0                     | 109  | 87   | 4   | 0                            | 0    | 0    | 0  | 54                    | 104  | 0    | 5   | 416        |
| 08:30 AM    | 27                            | 2    | 20   | 0   | 0                     | 132  | 100  | 5   | 0                            | 0    | 0    | 0  | 50                    | 108  | 0    | 2   | 446        |
| 08:45 AM    | 21                            | 0    | 23   | 1   | 3                     | 146  | 67   | 6   | 0                            | 0    | 0    | 0  | 50                    | 131  | 0    | 7   | 455        |
| Total       | 102                           | 3    | 98   | 5   | 3                     | 530  | 348  | 15  | 0                            | 0    | 0    | 0  | 223                   | 454  | 0    | 17  | 1798       |
| 04:00 PM    | 32                            | 0    | 34   | 1   | 0                     | 226  | 97   | 4   | 2                            | 0    | 0    | 0  | 42                    | 225  | 0    | 4   | 667        |
| 04:15 PM    | 16                            | 1    | 40   | 0   | 0                     | 200  | 63   | 2   | 1                            | 2    | 0    | 0  | 41                    | 237  | 0    | 1   | 604        |
| 04:30 PM    | 27                            | 1    | 28   | 1   | 0                     | 228  | 62   | 4   | 0                            | 0    | 0    | 0  | 59                    | 211  | 0    | 1   | 622        |
| 04:45 PM    | 22                            | 1    | 32   | 0   | 0                     | 219  | 87   | 1   | 0                            | 0    | 0    | 0  | 52                    | 203  | 0    | 1   | 618        |
| Total       | 97                            | 3    | 134  | 2   | 0                     | 873  | 309  | 11  | 3                            | 2    | 0    | 0  | 194                   | 876  | 0    | 7   | 2511       |
| 05:00 PM    | 31                            | 8    | 31   | 2   | 2                     | 216  | 88   | 1   | 0                            | 0    | 0    | 0  | 59                    | 231  | 0    | 2   | 671        |
| 05:15 PM    | 18                            | 0    | 27   | 1   | 0                     | 243  | 76   | 2   | 0                            | 0    | 0    | 0  | 48                    | 239  | 0    | 0   | 654        |
| 05:30 PM    | 22                            | 0    | 31   | 2   | 0                     | 210  | 74   | 2   | 0                            | 0    | 0    | 0  | 58                    | 244  | 0    | 2   | 645        |
| Grand Total | 387                           | 16   | 477  | 16  | 17                    | 2597 | 1483 | 40  | 14                           | 35   | 0    | 0  | 890                   | 2532 | 0    | 40  | 8544       |
| Apprch %    | 43.2                          | 1.8  | 53.2 | 1.8 | 0.4                   | 62.8 | 35.8 | 1   | 28.6                         | 71.4 | 0    | 0  | 25.7                  | 73.1 | 0    | 1.2 |            |
| Total %     | 4.5                           | 0.2  | 5.6  | 0.2 | 0.2                   | 30.4 | 17.4 | 0.5 | 0.2                          | 0.4  | 0    | 0  | 10.4                  | 29.6 | 0    | 0.5 |            |



File Name : 9 - Route 31 @ I-81 SB Ramps - 5-11-22  
 Site Code : 00000009  
 Start Date : 5/11/2022  
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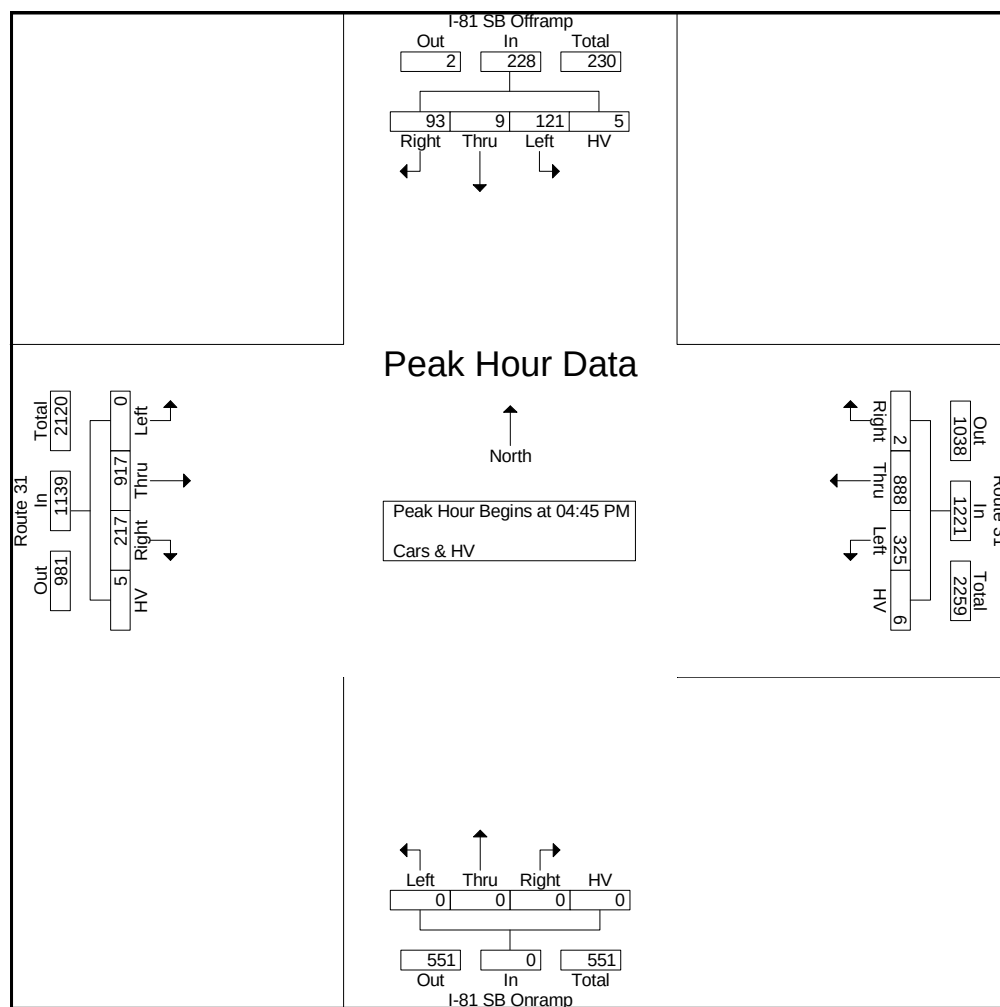
|                                                            | I-81 SB Offramp Southbound |      |      |      |            | Route 31 Westbound |      |      |      |            | I-81 SB Onramp Northbound |      |      |      |            | Route 31 Eastbound |      |      |      |            |            |
|------------------------------------------------------------|----------------------------|------|------|------|------------|--------------------|------|------|------|------------|---------------------------|------|------|------|------------|--------------------|------|------|------|------------|------------|
| Start Time                                                 | Right                      | Thru | Left | HV   | App. Total | Right              | Thru | Left | HV   | App. Total | Right                     | Thru | Left | HV   | App. Total | Right              | Thru | Left | HV   | App. Total | Int. Total |
| Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1 |                            |      |      |      |            |                    |      |      |      |            |                           |      |      |      |            |                    |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 07:00 AM       |                            |      |      |      |            |                    |      |      |      |            |                           |      |      |      |            |                    |      |      |      |            |            |
| 07:00 AM                                                   | 20                         | 0    | 41   | 1    | 62         | 6                  | 124  | 143  | 5    | 278        | 11                        | 33   | 0    | 0    | 44         | 48                 | 96   | 0    | 2    | 146        | 530        |
| 07:15 AM                                                   | 32                         | 2    | 39   | 1    | 74         | 0                  | 119  | 177  | 1    | 297        | 0                         | 0    | 0    | 0    | 0          | 80                 | 122  | 0    | 4    | 206        | 577        |
| 07:30 AM                                                   | 26                         | 0    | 40   | 1    | 67         | 0                  | 135  | 127  | 0    | 262        | 0                         | 0    | 0    | 0    | 0          | 78                 | 136  | 0    | 6    | 220        | 549        |
| 07:45 AM                                                   | 39                         | 0    | 36   | 1    | 76         | 6                  | 147  | 141  | 3    | 297        | 0                         | 0    | 0    | 0    | 0          | 102                | 134  | 0    | 0    | 236        | 609        |
| Total Volume                                               | 117                        | 2    | 156  | 4    | 279        | 12                 | 525  | 588  | 9    | 1134       | 11                        | 33   | 0    | 0    | 44         | 308                | 488  | 0    | 12   | 808        | 2265       |
| % App. Total                                               | 41.9                       | 0.7  | 55.9 | 1.4  |            | 1.1                | 46.3 | 51.9 | 0.8  |            | 25                        | 75   | 0    | 0    |            | 38.1               | 60.4 | 0    | 1.5  |            |            |
| PHF                                                        | .750                       | .250 | .951 | 1.00 | .918       | .500               | .893 | .831 | .450 | .955       | .250                      | .250 | .000 | .000 | .250       | .755               | .897 | .000 | .500 | .856       | .930       |





File Name : 9 - Route 31 @ I-81 SB Ramps - 5-11-22  
 Site Code : 00000009  
 Start Date : 5/11/2022  
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|                                                            | I-81 SB Offramp Southbound |      |      |      |            | Route 31 Westbound |      |      |      |            | I-81 SB Onramp Northbound |      |      |      |            | Route 31 Eastbound |      |      |      |            |            |
|------------------------------------------------------------|----------------------------|------|------|------|------------|--------------------|------|------|------|------------|---------------------------|------|------|------|------------|--------------------|------|------|------|------------|------------|
| Start Time                                                 | Right                      | Thru | Left | HV   | App. Total | Right              | Thru | Left | HV   | App. Total | Right                     | Thru | Left | HV   | App. Total | Right              | Thru | Left | HV   | App. Total | Int. Total |
| Peak Hour Analysis From 12:00 PM to 05:30 PM - Peak 1 of 1 |                            |      |      |      |            |                    |      |      |      |            |                           |      |      |      |            |                    |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 04:45 PM       |                            |      |      |      |            |                    |      |      |      |            |                           |      |      |      |            |                    |      |      |      |            |            |
| 04:45 PM                                                   | 22                         | 1    | 32   | 0    | 55         | 0                  | 219  | 87   | 1    | 307        | 0                         | 0    | 0    | 0    | 0          | 52                 | 203  | 0    | 1    | 256        | 618        |
| 05:00 PM                                                   | 31                         | 8    | 31   | 2    | 72         | 2                  | 216  | 88   | 1    | 307        | 0                         | 0    | 0    | 0    | 0          | 59                 | 231  | 0    | 2    | 292        | 671        |
| 05:15 PM                                                   | 18                         | 0    | 27   | 1    | 46         | 0                  | 243  | 76   | 2    | 321        | 0                         | 0    | 0    | 0    | 0          | 48                 | 239  | 0    | 0    | 287        | 654        |
| 05:30 PM                                                   | 22                         | 0    | 31   | 2    | 55         | 0                  | 210  | 74   | 2    | 286        | 0                         | 0    | 0    | 0    | 0          | 58                 | 244  | 0    | 2    | 304        | 645        |
| Total Volume                                               | 93                         | 9    | 121  | 5    | 228        | 2                  | 888  | 325  | 6    | 1221       | 0                         | 0    | 0    | 0    | 0          | 217                | 917  | 0    | 5    | 1139       | 2588       |
| % App. Total                                               | 40.8                       | 3.9  | 53.1 | 2.2  |            | 0.2                | 72.7 | 26.6 | 0.5  |            | 0                         | 0    | 0    | 0    |            | 19.1               | 80.5 | 0    | 0.4  |            |            |
| PHF                                                        | .750                       | .281 | .945 | .625 | .792       | .250               | .914 | .923 | .750 | .951       | .000                      | .000 | .000 | .000 | .000       | .919               | .940 | .000 | .625 | .937       | .964       |





File Name : 9 - Route 31 @ I-81 SB Ramps - 5-19-22

Site Code : 00000009

Start Date : 5/19/2022

Page No : 1

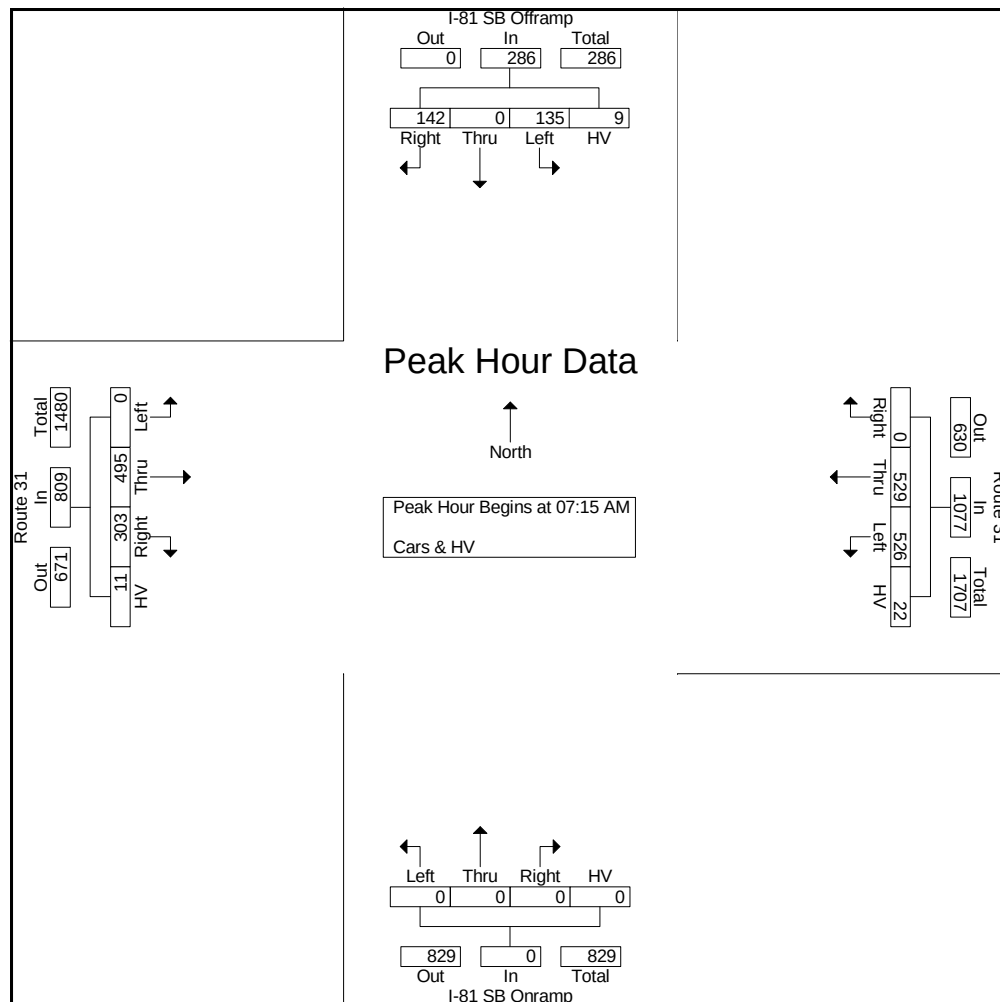
Groups Printed- Cars & HV

|             | I-81 SB Offramp<br>Southbound |      |      |     | Route 31<br>Westbound |      |      |     | I-81 SB Onramp<br>Northbound |      |      |    | Route 31<br>Eastbound |      |      |     |            |
|-------------|-------------------------------|------|------|-----|-----------------------|------|------|-----|------------------------------|------|------|----|-----------------------|------|------|-----|------------|
| Start Time  | Right                         | Thru | Left | HV  | Right                 | Thru | Left | HV  | Right                        | Thru | Left | HV | Right                 | Thru | Left | HV  | Int. Total |
| 07:00 AM    | 28                            | 0    | 20   | 2   | 0                     | 91   | 145  | 4   | 0                            | 0    | 0    | 0  | 65                    | 125  | 0    | 1   | 481        |
| 07:15 AM    | 28                            | 0    | 32   | 0   | 0                     | 120  | 138  | 4   | 0                            | 0    | 0    | 0  | 50                    | 167  | 0    | 3   | 542        |
| 07:30 AM    | 43                            | 0    | 34   | 3   | 0                     | 136  | 148  | 7   | 0                            | 0    | 0    | 0  | 98                    | 123  | 0    | 3   | 595        |
| 07:45 AM    | 36                            | 0    | 35   | 2   | 0                     | 140  | 139  | 4   | 0                            | 0    | 0    | 0  | 78                    | 102  | 0    | 1   | 537        |
| Total       | 135                           | 0    | 121  | 7   | 0                     | 487  | 570  | 19  | 0                            | 0    | 0    | 0  | 291                   | 517  | 0    | 8   | 2155       |
| 08:00 AM    | 35                            | 0    | 34   | 4   | 0                     | 133  | 101  | 7   | 0                            | 0    | 0    | 0  | 77                    | 103  | 0    | 4   | 498        |
| 08:15 AM    | 19                            | 0    | 18   | 2   | 0                     | 128  | 136  | 16  | 0                            | 0    | 0    | 0  | 65                    | 95   | 0    | 9   | 488        |
| 08:30 AM    | 38                            | 0    | 16   | 1   | 0                     | 121  | 83   | 10  | 0                            | 0    | 0    | 0  | 54                    | 123  | 0    | 5   | 451        |
| 08:45 AM    | 35                            | 0    | 24   | 3   | 0                     | 158  | 77   | 14  | 0                            | 0    | 0    | 0  | 42                    | 156  | 0    | 5   | 514        |
| Total       | 127                           | 0    | 92   | 10  | 0                     | 540  | 397  | 47  | 0                            | 0    | 0    | 0  | 238                   | 477  | 0    | 23  | 1951       |
| 04:00 PM    | 23                            | 0    | 34   | 4   | 0                     | 241  | 65   | 8   | 0                            | 0    | 0    | 0  | 55                    | 232  | 0    | 8   | 670        |
| 04:15 PM    | 34                            | 0    | 36   | 2   | 0                     | 242  | 86   | 3   | 0                            | 0    | 0    | 0  | 56                    | 221  | 0    | 8   | 688        |
| 04:30 PM    | 29                            | 0    | 33   | 1   | 0                     | 232  | 74   | 8   | 0                            | 0    | 0    | 0  | 62                    | 181  | 0    | 6   | 626        |
| 04:45 PM    | 34                            | 0    | 34   | 6   | 0                     | 231  | 75   | 4   | 0                            | 0    | 0    | 0  | 66                    | 240  | 0    | 7   | 697        |
| Total       | 120                           | 0    | 137  | 13  | 0                     | 946  | 300  | 23  | 0                            | 0    | 0    | 0  | 239                   | 874  | 0    | 29  | 2681       |
| 05:00 PM    | 36                            | 1    | 15   | 1   | 0                     | 242  | 74   | 3   | 0                            | 0    | 0    | 0  | 56                    | 234  | 0    | 9   | 671        |
| 05:15 PM    | 41                            | 0    | 27   | 0   | 0                     | 233  | 79   | 6   | 0                            | 0    | 0    | 0  | 52                    | 218  | 0    | 3   | 659        |
| 05:30 PM    | 27                            | 0    | 21   | 1   | 0                     | 204  | 67   | 11  | 1                            | 0    | 0    | 0  | 44                    | 204  | 0    | 2   | 582        |
| 05:45 PM    | 30                            | 1    | 31   | 2   | 0                     | 148  | 49   | 2   | 0                            | 0    | 0    | 0  | 31                    | 171  | 0    | 1   | 466        |
| Total       | 134                           | 2    | 94   | 4   | 0                     | 827  | 269  | 22  | 1                            | 0    | 0    | 0  | 183                   | 827  | 0    | 15  | 2378       |
| Grand Total | 516                           | 2    | 444  | 34  | 0                     | 2800 | 1536 | 111 | 1                            | 0    | 0    | 0  | 951                   | 2695 | 0    | 75  | 9165       |
| Apprch %    | 51.8                          | 0.2  | 44.6 | 3.4 | 0                     | 63   | 34.5 | 2.5 | 100                          | 0    | 0    | 0  | 25.6                  | 72.4 | 0    | 2   |            |
| Total %     | 5.6                           | 0    | 4.8  | 0.4 | 0                     | 30.6 | 16.8 | 1.2 | 0                            | 0    | 0    | 0  | 10.4                  | 29.4 | 0    | 0.8 |            |



File Name : 9 - Route 31 @ I-81 SB Ramps - 5-19-22  
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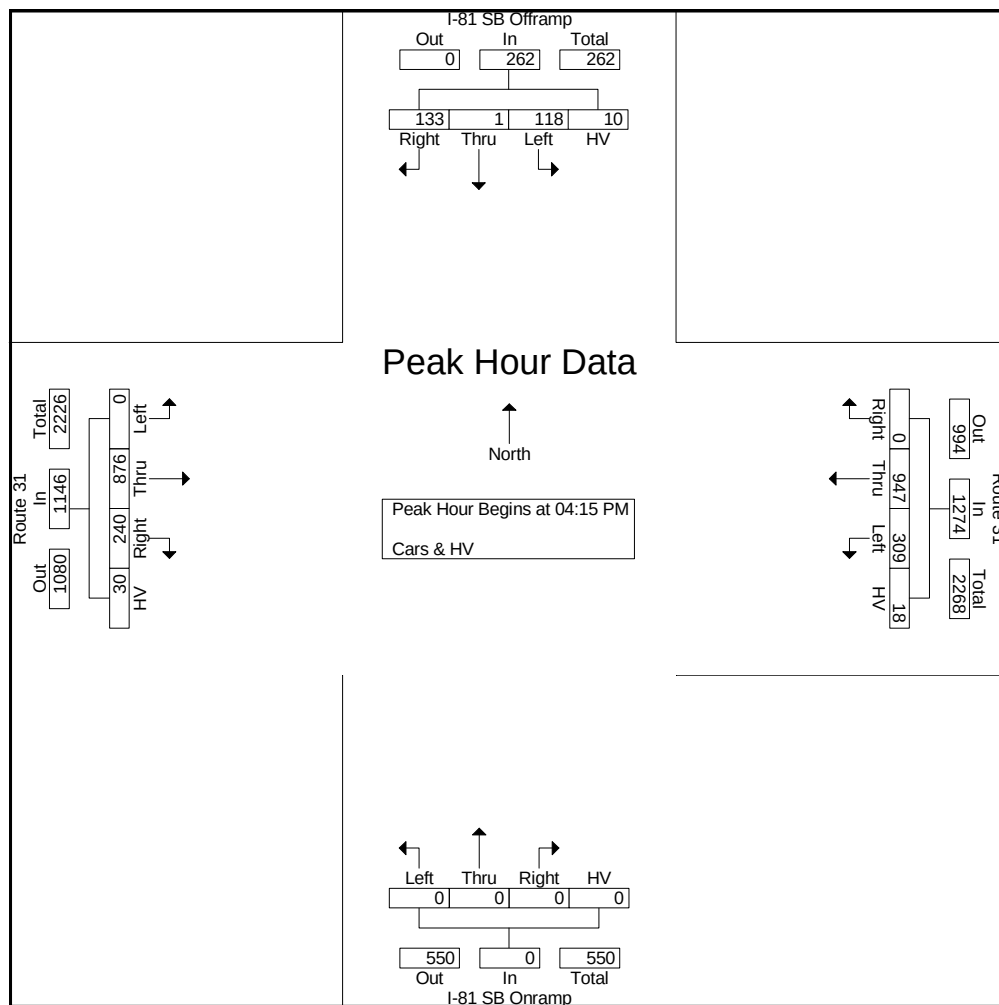
|                                                            | I-81 SB Offramp Southbound |      |      |      |            | Route 31 Westbound |      |      |      |            | I-81 SB Onramp Northbound |      |      |      |            | Route 31 Eastbound |      |      |      |            |            |
|------------------------------------------------------------|----------------------------|------|------|------|------------|--------------------|------|------|------|------------|---------------------------|------|------|------|------------|--------------------|------|------|------|------------|------------|
| Start Time                                                 | Right                      | Thru | Left | HV   | App. Total | Right              | Thru | Left | HV   | App. Total | Right                     | Thru | Left | HV   | App. Total | Right              | Thru | Left | HV   | App. Total | Int. Total |
| Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1 |                            |      |      |      |            |                    |      |      |      |            |                           |      |      |      |            |                    |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 07:15 AM       |                            |      |      |      |            |                    |      |      |      |            |                           |      |      |      |            |                    |      |      |      |            |            |
| 07:15 AM                                                   | 28                         | 0    | 32   | 0    | 60         | 0                  | 120  | 138  | 4    | 262        | 0                         | 0    | 0    | 0    | 0          | 50                 | 167  | 0    | 3    | 220        | 542        |
| 07:30 AM                                                   | 43                         | 0    | 34   | 3    | 80         | 0                  | 136  | 148  | 7    | 291        | 0                         | 0    | 0    | 0    | 0          | 98                 | 123  | 0    | 3    | 224        | 595        |
| 07:45 AM                                                   | 36                         | 0    | 35   | 2    | 73         | 0                  | 140  | 139  | 4    | 283        | 0                         | 0    | 0    | 0    | 0          | 78                 | 102  | 0    | 1    | 181        | 537        |
| 08:00 AM                                                   | 35                         | 0    | 34   | 4    | 73         | 0                  | 133  | 101  | 7    | 241        | 0                         | 0    | 0    | 0    | 0          | 77                 | 103  | 0    | 4    | 184        | 498        |
| Total Volume                                               | 142                        | 0    | 135  | 9    | 286        | 0                  | 529  | 526  | 22   | 1077       | 0                         | 0    | 0    | 0    | 0          | 303                | 495  | 0    | 11   | 809        | 2172       |
| % App. Total                                               | 49.7                       | 0    | 47.2 | 3.1  |            | 0                  | 49.1 | 48.8 | 2    |            | 0                         | 0    | 0    | 0    |            | 37.5               | 61.2 | 0    | 1.4  |            |            |
| PHF                                                        | .826                       | .000 | .964 | .563 | .894       | .000               | .945 | .889 | .786 | .925       | .000                      | .000 | .000 | .000 | .000       | .773               | .741 | .000 | .688 | .903       | .913       |





File Name : 9 - Route 31 @ I-81 SB Ramps - 5-19-22  
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|                                                            | I-81 SB Offramp Southbound |      |      |      |            | Route 31 Westbound |      |      |      |            | I-81 SB Onramp Northbound |      |      |      |            | Route 31 Eastbound |      |      |      |            |            |
|------------------------------------------------------------|----------------------------|------|------|------|------------|--------------------|------|------|------|------------|---------------------------|------|------|------|------------|--------------------|------|------|------|------------|------------|
| Start Time                                                 | Right                      | Thru | Left | HV   | App. Total | Right              | Thru | Left | HV   | App. Total | Right                     | Thru | Left | HV   | App. Total | Right              | Thru | Left | HV   | App. Total | Int. Total |
| Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1 |                            |      |      |      |            |                    |      |      |      |            |                           |      |      |      |            |                    |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 04:15 PM       |                            |      |      |      |            |                    |      |      |      |            |                           |      |      |      |            |                    |      |      |      |            |            |
| 04:15 PM                                                   | 34                         | 0    | 36   | 2    | 72         | 0                  | 242  | 86   | 3    | 331        | 0                         | 0    | 0    | 0    | 0          | 56                 | 221  | 0    | 8    | 285        | 688        |
| 04:30 PM                                                   | 29                         | 0    | 33   | 1    | 63         | 0                  | 232  | 74   | 8    | 314        | 0                         | 0    | 0    | 0    | 0          | 62                 | 181  | 0    | 6    | 249        | 626        |
| 04:45 PM                                                   | 34                         | 0    | 34   | 6    | 74         | 0                  | 231  | 75   | 4    | 310        | 0                         | 0    | 0    | 0    | 0          | 66                 | 240  | 0    | 7    | 313        | 697        |
| 05:00 PM                                                   | 36                         | 1    | 15   | 1    | 53         | 0                  | 242  | 74   | 3    | 319        | 0                         | 0    | 0    | 0    | 0          | 56                 | 234  | 0    | 9    | 299        | 671        |
| Total Volume                                               | 133                        | 1    | 118  | 10   | 262        | 0                  | 947  | 309  | 18   | 1274       | 0                         | 0    | 0    | 0    | 0          | 240                | 876  | 0    | 30   | 1146       | 2682       |
| % App. Total                                               | 50.8                       | 0.4  | 45   | 3.8  |            | 0                  | 74.3 | 24.3 | 1.4  |            | 0                         | 0    | 0    | 0    |            | 20.9               | 76.4 | 0    | 2.6  |            |            |
| PHF                                                        | .924                       | .250 | .819 | .417 | .885       | .000               | .978 | .898 | .563 | .962       | .000                      | .000 | .000 | .000 | .000       | .909               | .913 | .000 | .833 | .915       | .962       |





File Name : 9 - Route 31 @ I-81 SB Ramps - 5-19-22

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Groups Printed- Peds

|             | I-81 SB Offramp<br>Southbound |      |      |      | Route 31<br>Westbound |      |      |      | I-81 SB Onramp<br>Northbound |      |      |      | Route 31<br>Eastbound |      |      |      | Int. Total |
|-------------|-------------------------------|------|------|------|-----------------------|------|------|------|------------------------------|------|------|------|-----------------------|------|------|------|------------|
| Start Time  | Right                         | Thru | Left | Peds | Right                 | Thru | Left | Peds | Right                        | Thru | Left | Peds | Right                 | Thru | Left | Peds |            |
| 07:45 AM    | 0                             | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 0                            | 0    | 0    | 1    | 0                     | 0    | 0    | 0    | 1          |
| Total       | 0                             | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 0                            | 0    | 0    | 1    | 0                     | 0    | 0    | 0    | 1          |
| 08:15 AM    | 0                             | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 0                            | 0    | 0    | 1    | 0                     | 0    | 0    | 0    | 1          |
| Total       | 0                             | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 0                            | 0    | 0    | 1    | 0                     | 0    | 0    | 0    | 1          |
| 04:00 PM    | 0                             | 0    | 0    | 1    | 0                     | 0    | 0    | 0    | 0                            | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 1          |
| 04:30 PM    | 0                             | 0    | 0    | 2    | 0                     | 0    | 0    | 0    | 0                            | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 2          |
| 04:45 PM    | 0                             | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 0                            | 0    | 0    | 1    | 0                     | 0    | 0    | 0    | 1          |
| Total       | 0                             | 0    | 0    | 3    | 0                     | 0    | 0    | 0    | 0                            | 0    | 0    | 1    | 0                     | 0    | 0    | 0    | 4          |
| 05:15 PM    | 0                             | 0    | 0    | 1    | 0                     | 0    | 0    | 0    | 0                            | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 1          |
| Total       | 0                             | 0    | 0    | 1    | 0                     | 0    | 0    | 0    | 0                            | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 1          |
| Grand Total | 0                             | 0    | 0    | 4    | 0                     | 0    | 0    | 0    | 0                            | 0    | 0    | 3    | 0                     | 0    | 0    | 0    | 7          |
| Apprch %    | 0                             | 0    | 0    | 100  | 0                     | 0    | 0    | 0    | 0                            | 0    | 0    | 100  | 0                     | 0    | 0    | 0    |            |
| Total %     | 0                             | 0    | 0    | 57.1 | 0                     | 0    | 0    | 0    | 0                            | 0    | 0    | 42.9 | 0                     | 0    | 0    | 0    |            |



File Name : 9 - Route 31 @ I-81 SB Ramps - 5-21-22

Site Code : 00000009

Start Date : 5/21/2022

Page No : 1

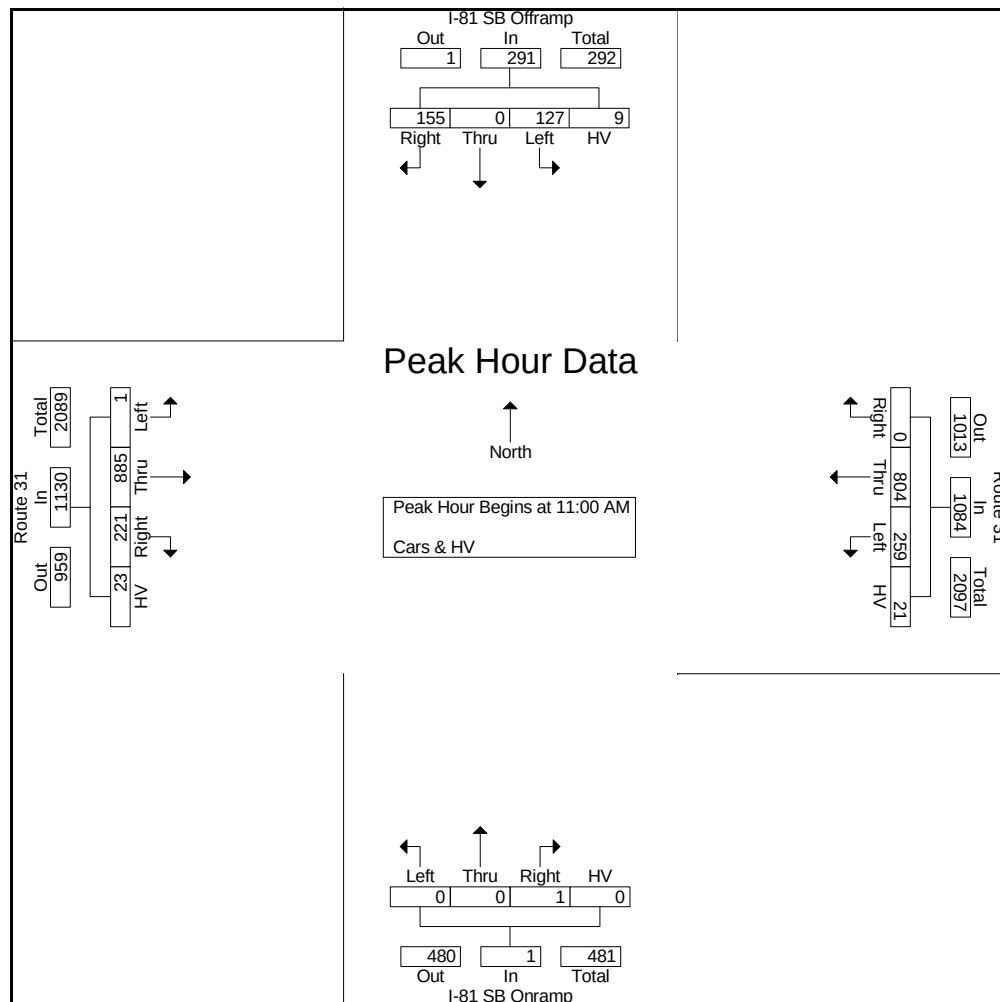
Groups Printed- Cars & HV

|             | I-81 SB Offramp<br>Southbound |      |      |     | Route 31<br>Westbound |      |      |     | I-81 SB Onramp<br>Northbound |      |      |    | Route 31<br>Eastbound |      |      |     |            |
|-------------|-------------------------------|------|------|-----|-----------------------|------|------|-----|------------------------------|------|------|----|-----------------------|------|------|-----|------------|
| Start Time  | Right                         | Thru | Left | HV  | Right                 | Thru | Left | HV  | Right                        | Thru | Left | HV | Right                 | Thru | Left | HV  | Int. Total |
| 11:00 AM    | 41                            | 0    | 22   | 2   | 0                     | 201  | 55   | 9   | 0                            | 0    | 0    | 0  | 66                    | 231  | 0    | 8   | 635        |
| 11:15 AM    | 23                            | 0    | 24   | 2   | 0                     | 178  | 55   | 4   | 1                            | 0    | 0    | 0  | 54                    | 219  | 0    | 5   | 565        |
| 11:30 AM    | 55                            | 0    | 34   | 3   | 0                     | 220  | 69   | 3   | 0                            | 0    | 0    | 0  | 50                    | 213  | 0    | 4   | 651        |
| 11:45 AM    | 36                            | 0    | 47   | 2   | 0                     | 205  | 80   | 5   | 0                            | 0    | 0    | 0  | 51                    | 222  | 1    | 6   | 655        |
| Total       | 155                           | 0    | 127  | 9   | 0                     | 804  | 259  | 21  | 1                            | 0    | 0    | 0  | 221                   | 885  | 1    | 23  | 2506       |
| 12:00 PM    | 25                            | 1    | 30   | 0   | 0                     | 212  | 71   | 5   | 0                            | 0    | 0    | 0  | 53                    | 200  | 0    | 11  | 608        |
| 12:15 PM    | 27                            | 1    | 22   | 1   | 0                     | 189  | 58   | 6   | 0                            | 0    | 0    | 0  | 51                    | 209  | 0    | 5   | 569        |
| 12:30 PM    | 35                            | 0    | 21   | 2   | 0                     | 155  | 58   | 3   | 0                            | 0    | 0    | 0  | 54                    | 234  | 0    | 5   | 567        |
| 12:45 PM    | 24                            | 0    | 26   | 2   | 0                     | 170  | 64   | 1   | 0                            | 0    | 0    | 0  | 41                    | 182  | 0    | 8   | 518        |
| Total       | 111                           | 2    | 99   | 5   | 0                     | 726  | 251  | 15  | 0                            | 0    | 0    | 0  | 199                   | 825  | 0    | 29  | 2262       |
| Grand Total | 266                           | 2    | 226  | 14  | 0                     | 1530 | 510  | 36  | 1                            | 0    | 0    | 0  | 420                   | 1710 | 1    | 52  | 4768       |
| Apprch %    | 52.4                          | 0.4  | 44.5 | 2.8 | 0                     | 73.7 | 24.6 | 1.7 | 100                          | 0    | 0    | 0  | 19.2                  | 78.3 | 0    | 2.4 |            |
| Total %     | 5.6                           | 0    | 4.7  | 0.3 | 0                     | 32.1 | 10.7 | 0.8 | 0                            | 0    | 0    | 0  | 8.8                   | 35.9 | 0    | 1.1 |            |



File Name : 9 - Route 31 @ I-81 SB Ramps - 5-21-22  
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|                                                            | I-81 SB Offramp Southbound |      |      |      |            | Route 31 Westbound |      |      |      |            | I-81 SB Onramp Northbound |      |      |      |            | Route 31 Eastbound |      |      |      |            |            |
|------------------------------------------------------------|----------------------------|------|------|------|------------|--------------------|------|------|------|------------|---------------------------|------|------|------|------------|--------------------|------|------|------|------------|------------|
| Start Time                                                 | Right                      | Thru | Left | HV   | App. Total | Right              | Thru | Left | HV   | App. Total | Right                     | Thru | Left | HV   | App. Total | Right              | Thru | Left | HV   | App. Total | Int. Total |
| Peak Hour Analysis From 11:00 AM to 12:45 PM - Peak 1 of 1 |                            |      |      |      |            |                    |      |      |      |            |                           |      |      |      |            |                    |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 11:00 AM       |                            |      |      |      |            |                    |      |      |      |            |                           |      |      |      |            |                    |      |      |      |            |            |
| 11:00 AM                                                   | 41                         | 0    | 22   | 2    | 65         | 0                  | 201  | 55   | 9    | 265        | 0                         | 0    | 0    | 0    | 0          | 66                 | 231  | 0    | 8    | 305        | 635        |
| 11:15 AM                                                   | 23                         | 0    | 24   | 2    | 49         | 0                  | 178  | 55   | 4    | 237        | 1                         | 0    | 0    | 0    | 1          | 54                 | 219  | 0    | 5    | 278        | 565        |
| 11:30 AM                                                   | 55                         | 0    | 34   | 3    | 92         | 0                  | 220  | 69   | 3    | 292        | 0                         | 0    | 0    | 0    | 0          | 50                 | 213  | 0    | 4    | 267        | 651        |
| 11:45 AM                                                   | 36                         | 0    | 47   | 2    | 85         | 0                  | 205  | 80   | 5    | 290        | 0                         | 0    | 0    | 0    | 0          | 51                 | 222  | 1    | 6    | 280        | 655        |
| Total Volume                                               | 155                        | 0    | 127  | 9    | 291        | 0                  | 804  | 259  | 21   | 1084       | 1                         | 0    | 0    | 0    | 1          | 221                | 885  | 1    | 23   | 1130       | 2506       |
| % App. Total                                               | 53.3                       | 0    | 43.6 | 3.1  |            | 0                  | 74.2 | 23.9 | 1.9  |            | 100                       | 0    | 0    | 0    |            | 19.6               | 78.3 | 0.1  | 2    |            |            |
| PHF                                                        | .705                       | .000 | .676 | .750 | .791       | .000               | .914 | .809 | .583 | .928       | .250                      | .000 | .000 | .000 | .250       | .837               | .958 | .250 | .719 | .926       | .956       |





File Name : 9 - Route 31 @ I-81 SB Ramps - 5-21-22  
 Site Code : 00000009  
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Groups Printed- Peds

|             | I-81 SB Offramp<br>Southbound |      |      |      | Route 31<br>Westbound |      |      |      | I-81 SB Onramp<br>Northbound |      |      |      | Route 31<br>Eastbound |      |      |      | Int. Total |
|-------------|-------------------------------|------|------|------|-----------------------|------|------|------|------------------------------|------|------|------|-----------------------|------|------|------|------------|
| Start Time  | Right                         | Thru | Left | Peds | Right                 | Thru | Left | Peds | Right                        | Thru | Left | Peds | Right                 | Thru | Left | Peds |            |
| 11:30 AM    | 0                             | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 0                            | 0    | 0    | 1    | 0                     | 0    | 0    | 1    | 2          |
| 11:45 AM    | 0                             | 0    | 0    | 2    | 0                     | 0    | 0    | 0    | 0                            | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 2          |
| Total       | 0                             | 0    | 0    | 2    | 0                     | 0    | 0    | 0    | 0                            | 0    | 0    | 1    | 0                     | 0    | 0    | 1    | 4          |
| 12:30 PM    | 0                             | 0    | 0    | 1    | 0                     | 0    | 0    | 0    | 0                            | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 1          |
| Total       | 0                             | 0    | 0    | 1    | 0                     | 0    | 0    | 0    | 0                            | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 1          |
| Grand Total | 0                             | 0    | 0    | 3    | 0                     | 0    | 0    | 0    | 0                            | 0    | 0    | 1    | 0                     | 0    | 0    | 1    | 5          |
| Apprch %    | 0                             | 0    | 0    | 100  | 0                     | 0    | 0    | 0    | 0                            | 0    | 0    | 100  | 0                     | 0    | 0    | 100  |            |
| Total %     | 0                             | 0    | 0    | 60   | 0                     | 0    | 0    | 0    | 0                            | 0    | 0    | 20   | 0                     | 0    | 0    | 20   |            |



File Name : 10 - Route 31 @ Route 11 - 5-12-22

Site Code : 00000010

Start Date : 5/12/2022

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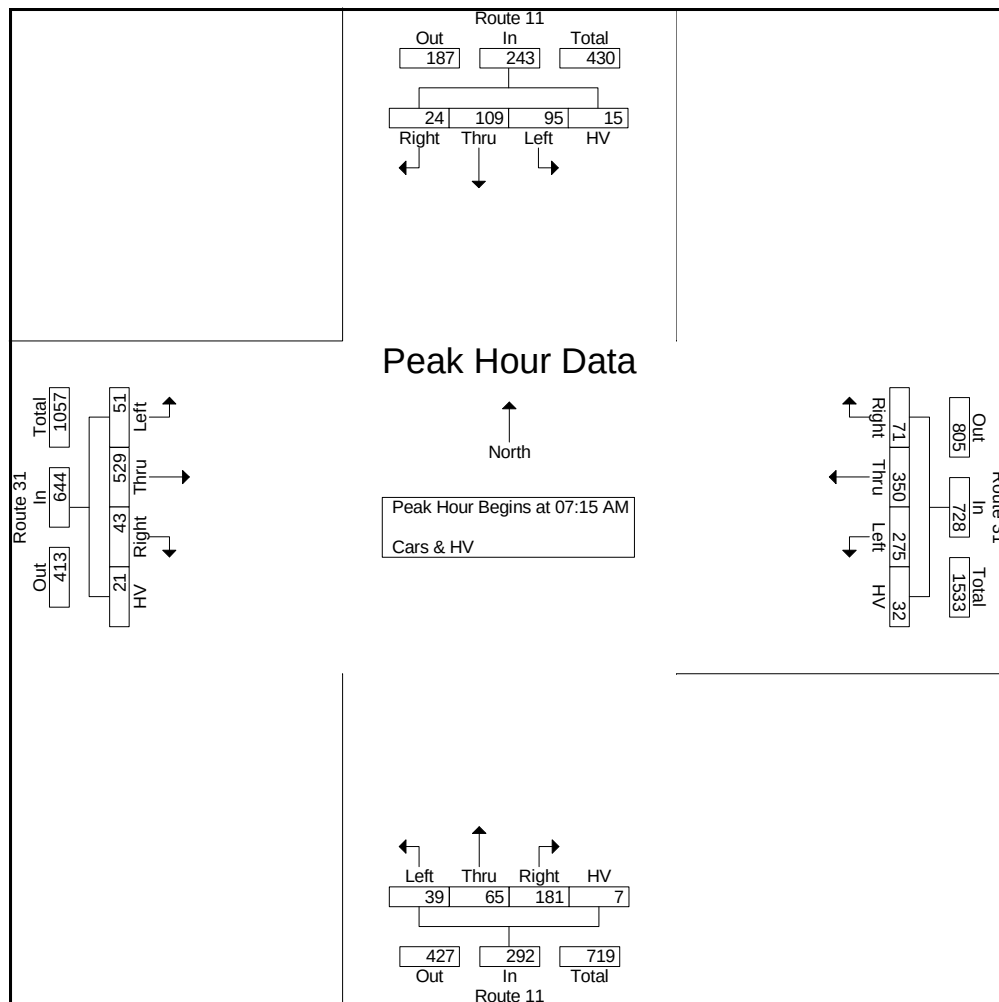
Groups Printed- Cars & HV

|             | Route 11<br>Southbound |      |      |     | Route 31<br>Westbound |      |      |     | Route 11<br>Northbound |      |      |     | Route 31<br>Eastbound |      |      |     |            |
|-------------|------------------------|------|------|-----|-----------------------|------|------|-----|------------------------|------|------|-----|-----------------------|------|------|-----|------------|
| Start Time  | Right                  | Thru | Left | HV  | Right                 | Thru | Left | HV  | Right                  | Thru | Left | HV  | Right                 | Thru | Left | HV  | Int. Total |
| 07:00 AM    | 7                      | 16   | 21   | 3   | 23                    | 53   | 38   | 3   | 34                     | 20   | 9    | 3   | 6                     | 142  | 15   | 6   | 399        |
| 07:15 AM    | 7                      | 10   | 17   | 2   | 23                    | 86   | 66   | 9   | 54                     | 11   | 7    | 1   | 7                     | 154  | 11   | 4   | 469        |
| 07:30 AM    | 5                      | 34   | 28   | 3   | 7                     | 94   | 78   | 3   | 43                     | 19   | 1    | 1   | 8                     | 141  | 18   | 7   | 490        |
| 07:45 AM    | 5                      | 46   | 28   | 6   | 22                    | 97   | 72   | 9   | 45                     | 12   | 9    | 2   | 13                    | 137  | 12   | 6   | 521        |
| Total       | 24                     | 106  | 94   | 14  | 75                    | 330  | 254  | 24  | 176                    | 62   | 26   | 7   | 34                    | 574  | 56   | 23  | 1879       |
| 08:00 AM    | 7                      | 19   | 22   | 4   | 19                    | 73   | 59   | 11  | 39                     | 23   | 22   | 3   | 15                    | 97   | 10   | 4   | 427        |
| 08:15 AM    | 8                      | 35   | 23   | 1   | 17                    | 80   | 64   | 8   | 38                     | 31   | 10   | 2   | 7                     | 98   | 12   | 7   | 441        |
| 08:30 AM    | 6                      | 23   | 28   | 6   | 17                    | 80   | 81   | 6   | 63                     | 29   | 18   | 1   | 21                    | 100  | 20   | 7   | 506        |
| 08:45 AM    | 2                      | 30   | 18   | 0   | 22                    | 57   | 82   | 3   | 55                     | 26   | 12   | 3   | 15                    | 116  | 9    | 11  | 461        |
| Total       | 23                     | 107  | 91   | 11  | 75                    | 290  | 286  | 28  | 195                    | 109  | 62   | 9   | 58                    | 411  | 51   | 29  | 1835       |
| 04:00 PM    | 19                     | 53   | 49   | 2   | 25                    | 103  | 105  | 1   | 143                    | 65   | 20   | 3   | 20                    | 94   | 13   | 8   | 723        |
| 04:15 PM    | 14                     | 46   | 33   | 1   | 13                    | 128  | 87   | 2   | 87                     | 53   | 27   | 0   | 15                    | 115  | 7    | 4   | 632        |
| 04:30 PM    | 19                     | 47   | 48   | 4   | 28                    | 96   | 95   | 2   | 120                    | 65   | 25   | 0   | 21                    | 108  | 14   | 2   | 694        |
| 04:45 PM    | 13                     | 45   | 32   | 3   | 33                    | 105  | 90   | 4   | 124                    | 61   | 31   | 0   | 15                    | 95   | 18   | 2   | 671        |
| Total       | 65                     | 191  | 162  | 10  | 99                    | 432  | 377  | 9   | 474                    | 244  | 103  | 3   | 71                    | 412  | 52   | 16  | 2720       |
| 05:00 PM    | 23                     | 28   | 49   | 2   | 14                    | 131  | 81   | 3   | 116                    | 67   | 41   | 0   | 25                    | 96   | 9    | 0   | 685        |
| 05:15 PM    | 17                     | 25   | 37   | 2   | 19                    | 175  | 109  | 2   | 118                    | 65   | 22   | 1   | 36                    | 97   | 15   | 1   | 741        |
| 05:30 PM    | 9                      | 30   | 21   | 0   | 24                    | 125  | 103  | 2   | 114                    | 57   | 27   | 0   | 23                    | 109  | 11   | 0   | 655        |
| 05:45 PM    | 23                     | 19   | 30   | 3   | 24                    | 102  | 84   | 4   | 120                    | 59   | 30   | 0   | 14                    | 108  | 12   | 0   | 632        |
| Total       | 72                     | 102  | 137  | 7   | 81                    | 533  | 377  | 11  | 468                    | 248  | 120  | 1   | 98                    | 410  | 47   | 1   | 2713       |
| Grand Total | 184                    | 506  | 484  | 42  | 330                   | 1585 | 1294 | 72  | 1313                   | 663  | 311  | 20  | 261                   | 1807 | 206  | 69  | 9147       |
| Apprch %    | 15.1                   | 41.6 | 39.8 | 3.5 | 10.1                  | 48.3 | 39.4 | 2.2 | 56.9                   | 28.7 | 13.5 | 0.9 | 11.1                  | 77.1 | 8.8  | 2.9 |            |
| Total %     | 2                      | 5.5  | 5.3  | 0.5 | 3.6                   | 17.3 | 14.1 | 0.8 | 14.4                   | 7.2  | 3.4  | 0.2 | 2.9                   | 19.8 | 2.3  | 0.8 |            |



File Name : 10 - Route 31 @ Route 11 - 5-12-22  
 Site Code : 00000010  
 Start Date : 5/12/2022  
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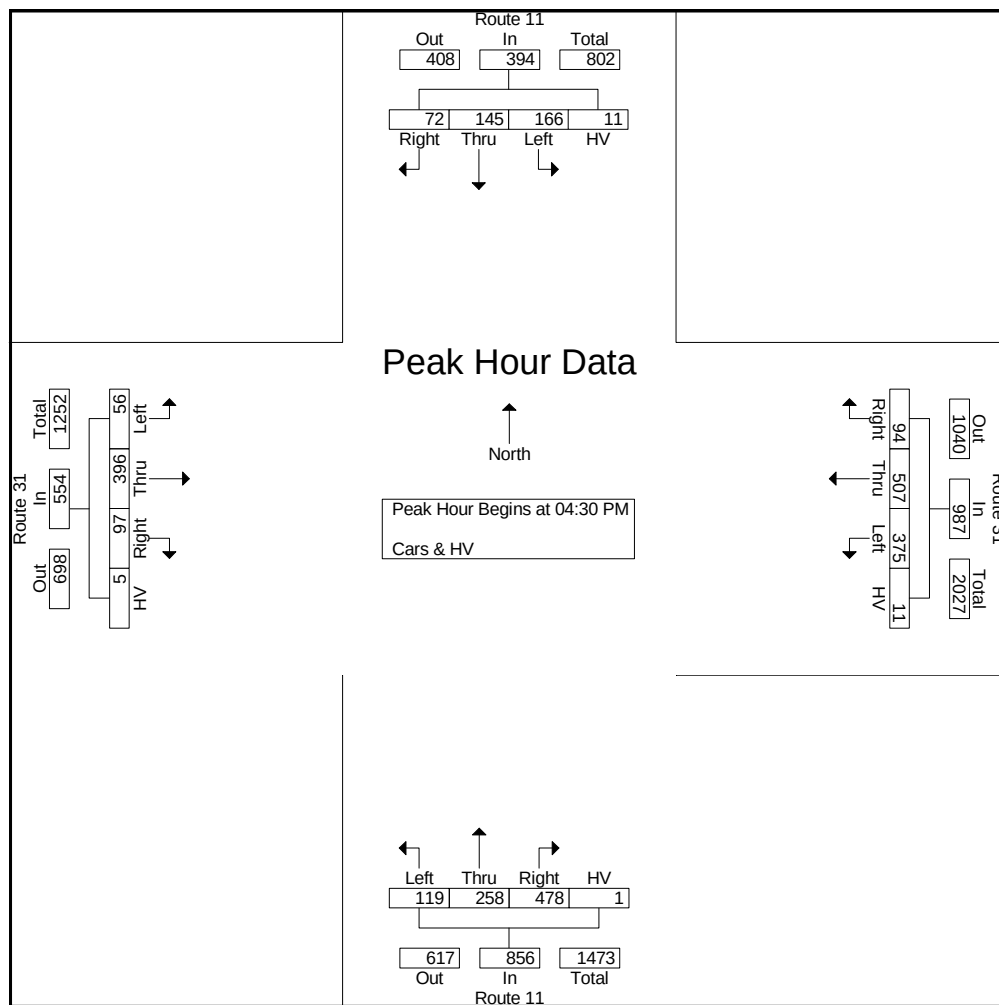
|                                                            | Route 11<br>Southbound |      |      |      |            | Route 31<br>Westbound |      |      |      |            | Route 11<br>Northbound |      |      |      |            | Route 31<br>Eastbound |      |      |      |            |            |
|------------------------------------------------------------|------------------------|------|------|------|------------|-----------------------|------|------|------|------------|------------------------|------|------|------|------------|-----------------------|------|------|------|------------|------------|
| Start Time                                                 | Right                  | Thru | Left | HV   | App. Total | Right                 | Thru | Left | HV   | App. Total | Right                  | Thru | Left | HV   | App. Total | Right                 | Thru | Left | HV   | App. Total | Int. Total |
| Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1 |                        |      |      |      |            |                       |      |      |      |            |                        |      |      |      |            |                       |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 07:15 AM       |                        |      |      |      |            |                       |      |      |      |            |                        |      |      |      |            |                       |      |      |      |            |            |
| 07:15 AM                                                   | 7                      | 10   | 17   | 2    | 36         | 23                    | 86   | 66   | 9    | 184        | 54                     | 11   | 7    | 1    | 73         | 7                     | 154  | 11   | 4    | 176        | 469        |
| 07:30 AM                                                   | 5                      | 34   | 28   | 3    | 70         | 7                     | 94   | 78   | 3    | 182        | 43                     | 19   | 1    | 1    | 64         | 8                     | 141  | 18   | 7    | 174        | 490        |
| 07:45 AM                                                   | 5                      | 46   | 28   | 6    | 85         | 22                    | 97   | 72   | 9    | 200        | 45                     | 12   | 9    | 2    | 68         | 13                    | 137  | 12   | 6    | 168        | 521        |
| 08:00 AM                                                   | 7                      | 19   | 22   | 4    | 52         | 19                    | 73   | 59   | 11   | 162        | 39                     | 23   | 22   | 3    | 87         | 15                    | 97   | 10   | 4    | 126        | 427        |
| Total Volume                                               | 24                     | 109  | 95   | 15   | 243        | 71                    | 350  | 275  | 32   | 728        | 181                    | 65   | 39   | 7    | 292        | 43                    | 529  | 51   | 21   | 644        | 1907       |
| % App. Total                                               | 9.9                    | 44.9 | 39.1 | 6.2  |            | 9.8                   | 48.1 | 37.8 | 4.4  |            | 62                     | 22.3 | 13.4 | 2.4  |            | 6.7                   | 82.1 | 7.9  | 3.3  |            |            |
| PHF                                                        | .857                   | .592 | .848 | .625 | .715       | .772                  | .902 | .881 | .727 | .910       | .838                   | .707 | .443 | .583 | .839       | .717                  | .859 | .708 | .750 | .915       | .915       |





File Name : 10 - Route 31 @ Route 11 - 5-12-22  
 Site Code : 00000010  
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|                                                            | Route 11<br>Southbound |      |      |      |            | Route 31<br>Westbound |      |      |      |            | Route 11<br>Northbound |      |      |      |            | Route 31<br>Eastbound |      |      |      |            |            |
|------------------------------------------------------------|------------------------|------|------|------|------------|-----------------------|------|------|------|------------|------------------------|------|------|------|------------|-----------------------|------|------|------|------------|------------|
| Start<br>Time                                              | Right                  | Thru | Left | HV   | App. Total | Right                 | Thru | Left | HV   | App. Total | Right                  | Thru | Left | HV   | App. Total | Right                 | Thru | Left | HV   | App. Total | Int. Total |
| Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1 |                        |      |      |      |            |                       |      |      |      |            |                        |      |      |      |            |                       |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 04:30 PM       |                        |      |      |      |            |                       |      |      |      |            |                        |      |      |      |            |                       |      |      |      |            |            |
| 04:30 PM                                                   | 19                     | 47   | 48   | 4    | 118        | 28                    | 96   | 95   | 2    | 221        | 120                    | 65   | 25   | 0    | 210        | 21                    | 108  | 14   | 2    | 145        | 694        |
| 04:45 PM                                                   | 13                     | 45   | 32   | 3    | 93         | 33                    | 105  | 90   | 4    | 232        | 124                    | 61   | 31   | 0    | 216        | 15                    | 95   | 18   | 2    | 130        | 671        |
| 05:00 PM                                                   | 23                     | 28   | 49   | 2    | 102        | 14                    | 131  | 81   | 3    | 229        | 116                    | 67   | 41   | 0    | 224        | 25                    | 96   | 9    | 0    | 130        | 685        |
| 05:15 PM                                                   | 17                     | 25   | 37   | 2    | 81         | 19                    | 175  | 109  | 2    | 305        | 118                    | 65   | 22   | 1    | 206        | 36                    | 97   | 15   | 1    | 149        | 741        |
| Total Volume                                               | 72                     | 145  | 166  | 11   | 394        | 94                    | 507  | 375  | 11   | 987        | 478                    | 258  | 119  | 1    | 856        | 97                    | 396  | 56   | 5    | 554        | 2791       |
| % App. Total                                               | 18.3                   | 36.8 | 42.1 | 2.8  |            | 9.5                   | 51.4 | 38   | 1.1  |            | 55.8                   | 30.1 | 13.9 | 0.1  |            | 17.5                  | 71.5 | 10.1 | 0.9  |            |            |
| PHF                                                        | .783                   | .771 | .847 | .688 | .835       | .712                  | .724 | .860 | .688 | .809       | .964                   | .963 | .726 | .250 | .955       | .674                  | .917 | .778 | .625 | .930       | .942       |





[illegible]



File Name : 10 - Route 31 @ Route 11 - 5-19-22

Site Code : 00000010

Start Date : 5/19/2022

Page No : 1

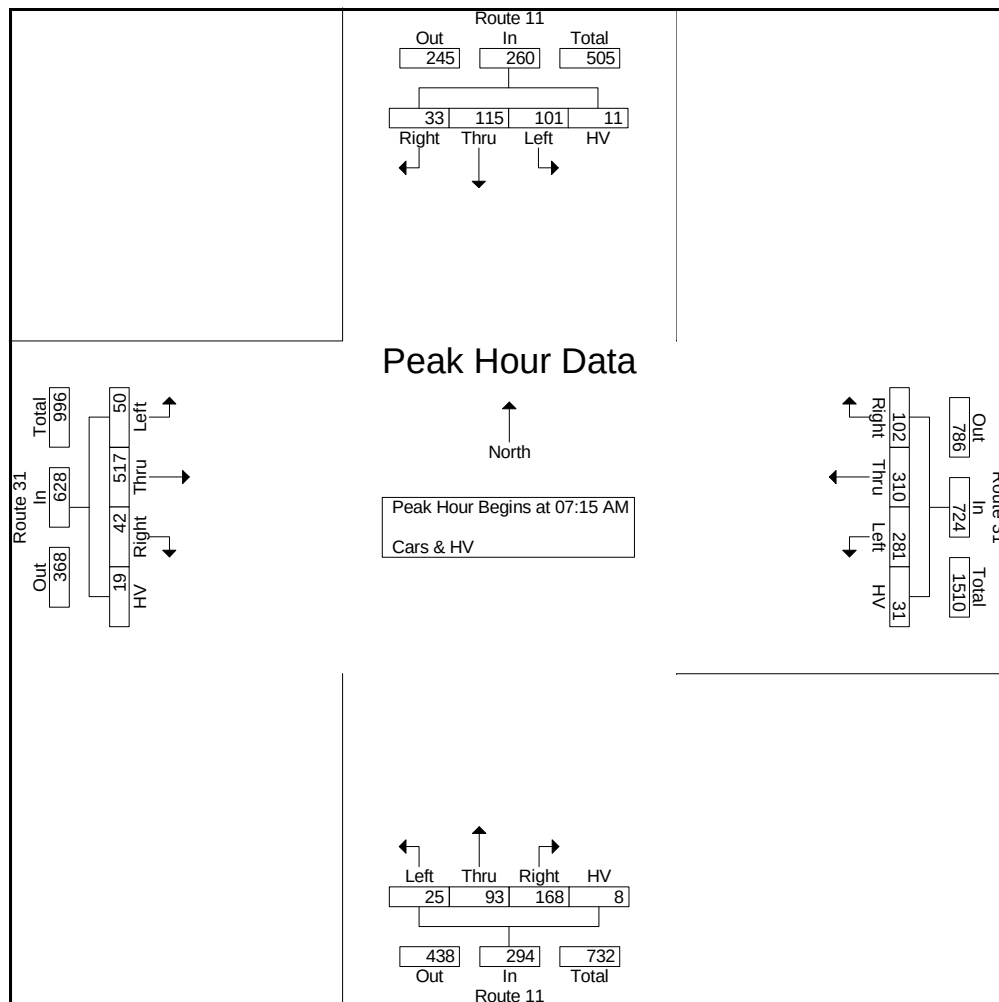
Groups Printed- Cars & HV

|             | Route 11<br>Southbound |      |      |     | Route 31<br>Westbound |      |      |     | Route 11<br>Northbound |      |      |     | Route 31<br>Eastbound |      |      |     |            |
|-------------|------------------------|------|------|-----|-----------------------|------|------|-----|------------------------|------|------|-----|-----------------------|------|------|-----|------------|
| Start Time  | Right                  | Thru | Left | HV  | Right                 | Thru | Left | HV  | Right                  | Thru | Left | HV  | Right                 | Thru | Left | HV  | Int. Total |
| 07:00 AM    | 6                      | 16   | 22   | 3   | 16                    | 69   | 25   | 4   | 34                     | 17   | 8    | 4   | 9                     | 135  | 11   | 9   | 388        |
| 07:15 AM    | 7                      | 21   | 25   | 1   | 21                    | 81   | 55   | 12  | 55                     | 17   | 6    | 1   | 6                     | 165  | 13   | 2   | 488        |
| 07:30 AM    | 9                      | 26   | 24   | 5   | 18                    | 86   | 84   | 1   | 32                     | 19   | 5    | 1   | 7                     | 129  | 12   | 7   | 465        |
| 07:45 AM    | 8                      | 39   | 34   | 3   | 31                    | 73   | 76   | 5   | 39                     | 27   | 5    | 5   | 11                    | 121  | 15   | 5   | 497        |
| Total       | 30                     | 102  | 105  | 12  | 86                    | 309  | 240  | 22  | 160                    | 80   | 24   | 11  | 33                    | 550  | 51   | 23  | 1838       |
| 08:00 AM    | 9                      | 29   | 18   | 2   | 32                    | 70   | 66   | 13  | 42                     | 30   | 9    | 1   | 18                    | 102  | 10   | 5   | 456        |
| 08:15 AM    | 5                      | 29   | 21   | 6   | 23                    | 83   | 58   | 14  | 57                     | 30   | 14   | 3   | 8                     | 75   | 12   | 3   | 441        |
| 08:30 AM    | 4                      | 21   | 23   | 2   | 30                    | 75   | 66   | 9   | 54                     | 32   | 11   | 4   | 11                    | 106  | 13   | 10  | 471        |
| Total       | 18                     | 79   | 62   | 10  | 85                    | 228  | 190  | 36  | 153                    | 92   | 34   | 8   | 37                    | 283  | 35   | 18  | 1368       |
| 04:00 PM    | 26                     | 29   | 61   | 4   | 34                    | 118  | 82   | 5   | 119                    | 61   | 21   | 3   | 11                    | 93   | 13   | 11  | 691        |
| 04:15 PM    | 17                     | 32   | 28   | 2   | 23                    | 134  | 97   | 5   | 131                    | 64   | 17   | 0   | 21                    | 104  | 15   | 1   | 691        |
| 04:30 PM    | 16                     | 58   | 42   | 3   | 28                    | 117  | 108  | 4   | 112                    | 64   | 17   | 1   | 24                    | 98   | 15   | 5   | 712        |
| 04:45 PM    | 18                     | 42   | 42   | 3   | 32                    | 121  | 92   | 3   | 128                    | 82   | 27   | 2   | 19                    | 109  | 9    | 1   | 730        |
| Total       | 77                     | 161  | 173  | 12  | 117                   | 490  | 379  | 17  | 490                    | 271  | 82   | 6   | 75                    | 404  | 52   | 18  | 2824       |
| 05:00 PM    | 35                     | 43   | 49   | 2   | 27                    | 146  | 90   | 4   | 125                    | 70   | 32   | 1   | 17                    | 95   | 18   | 3   | 757        |
| 05:15 PM    | 15                     | 39   | 45   | 1   | 43                    | 137  | 112  | 5   | 102                    | 68   | 30   | 0   | 26                    | 97   | 12   | 1   | 733        |
| 05:30 PM    | 17                     | 36   | 28   | 1   | 20                    | 123  | 102  | 4   | 145                    | 62   | 23   | 1   | 23                    | 88   | 20   | 0   | 693        |
| 05:45 PM    | 11                     | 28   | 25   | 0   | 31                    | 117  | 80   | 1   | 126                    | 81   | 20   | 0   | 17                    | 101  | 13   | 0   | 651        |
| Total       | 78                     | 146  | 147  | 4   | 121                   | 523  | 384  | 14  | 498                    | 281  | 105  | 2   | 83                    | 381  | 63   | 4   | 2834       |
| Grand Total | 203                    | 488  | 487  | 38  | 409                   | 1550 | 1193 | 89  | 1301                   | 724  | 245  | 27  | 228                   | 1618 | 201  | 63  | 8864       |
| Apprch %    | 16.7                   | 40.1 | 40   | 3.1 | 12.6                  | 47.8 | 36.8 | 2.7 | 56.6                   | 31.5 | 10.7 | 1.2 | 10.8                  | 76.7 | 9.5  | 3   |            |
| Total %     | 2.3                    | 5.5  | 5.5  | 0.4 | 4.6                   | 17.5 | 13.5 | 1   | 14.7                   | 8.2  | 2.8  | 0.3 | 2.6                   | 18.3 | 2.3  | 0.7 |            |



File Name : 10 - Route 31 @ Route 11 - 5-19-22  
 Site Code : 00000010  
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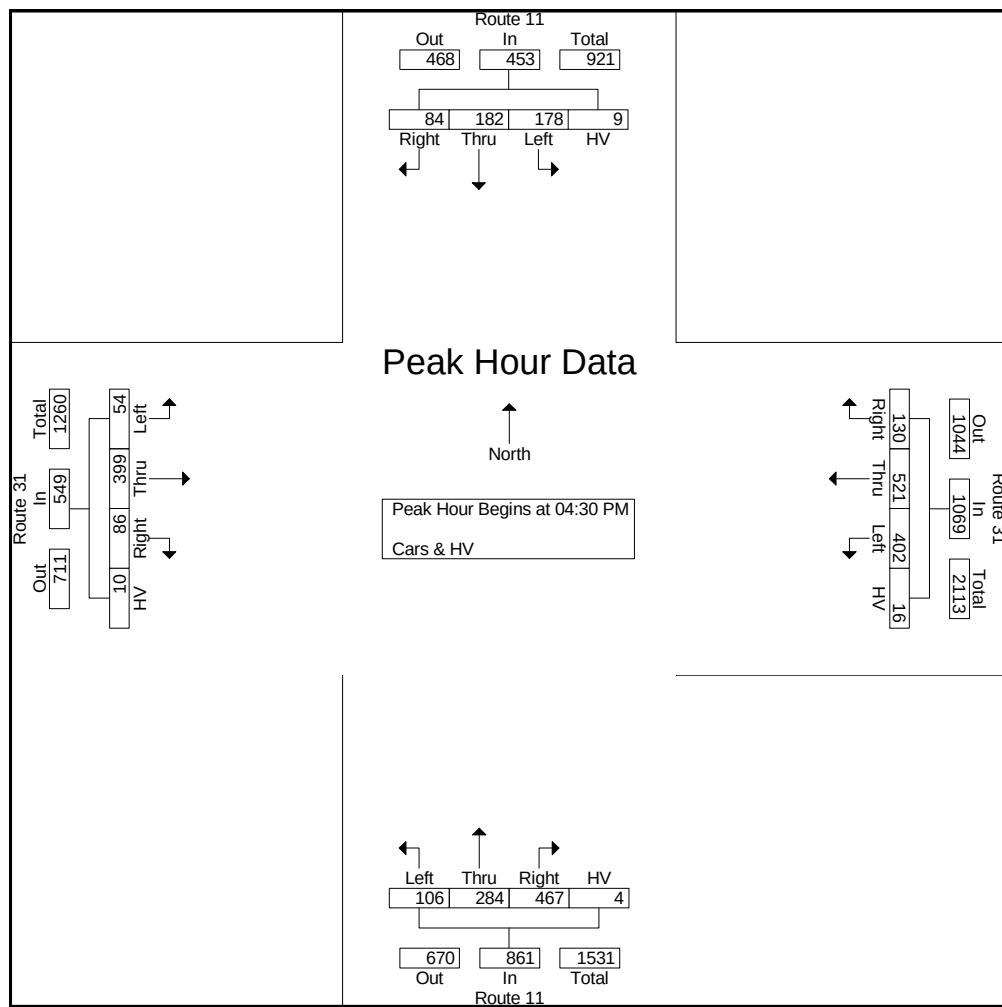
|                                                            | Route 11<br>Southbound |      |      |      |            | Route 31<br>Westbound |      |      |      |            | Route 11<br>Northbound |      |      |      |            | Route 31<br>Eastbound |      |      |      |            |            |
|------------------------------------------------------------|------------------------|------|------|------|------------|-----------------------|------|------|------|------------|------------------------|------|------|------|------------|-----------------------|------|------|------|------------|------------|
| Start Time                                                 | Right                  | Thru | Left | HV   | App. Total | Right                 | Thru | Left | HV   | App. Total | Right                  | Thru | Left | HV   | App. Total | Right                 | Thru | Left | HV   | App. Total | Int. Total |
| Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1 |                        |      |      |      |            |                       |      |      |      |            |                        |      |      |      |            |                       |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 07:15 AM       |                        |      |      |      |            |                       |      |      |      |            |                        |      |      |      |            |                       |      |      |      |            |            |
| 07:15 AM                                                   | 7                      | 21   | 25   | 1    | 54         | 21                    | 81   | 55   | 12   | 169        | 55                     | 17   | 6    | 1    | 79         | 6                     | 165  | 13   | 2    | 186        | 488        |
| 07:30 AM                                                   | 9                      | 26   | 24   | 5    | 64         | 18                    | 86   | 84   | 1    | 189        | 32                     | 19   | 5    | 1    | 57         | 7                     | 129  | 12   | 7    | 155        | 465        |
| 07:45 AM                                                   | 8                      | 39   | 34   | 3    | 84         | 31                    | 73   | 76   | 5    | 185        | 39                     | 27   | 5    | 5    | 76         | 11                    | 121  | 15   | 5    | 152        | 497        |
| 08:00 AM                                                   | 9                      | 29   | 18   | 2    | 58         | 32                    | 70   | 66   | 13   | 181        | 42                     | 30   | 9    | 1    | 82         | 18                    | 102  | 10   | 5    | 135        | 456        |
| Total Volume                                               | 33                     | 115  | 101  | 11   | 260        | 102                   | 310  | 281  | 31   | 724        | 168                    | 93   | 25   | 8    | 294        | 42                    | 517  | 50   | 19   | 628        | 1906       |
| % App. Total                                               | 12.7                   | 44.2 | 38.8 | 4.2  |            | 14.1                  | 42.8 | 38.8 | 4.3  |            | 57.1                   | 31.6 | 8.5  | 2.7  |            | 6.7                   | 82.3 | 8    | 3    |            |            |
| PHF                                                        | .917                   | .737 | .743 | .550 | .774       | .797                  | .901 | .836 | .596 | .958       | .764                   | .775 | .694 | .400 | .896       | .583                  | .783 | .833 | .679 | .844       | .959       |





File Name : 10 - Route 31 @ Route 11 - 5-19-22  
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|                                                            | Route 11<br>Southbound |      |      |      |            | Route 31<br>Westbound |      |      |      |            | Route 11<br>Northbound |      |      |      |            | Route 31<br>Eastbound |      |      |      |            |            |
|------------------------------------------------------------|------------------------|------|------|------|------------|-----------------------|------|------|------|------------|------------------------|------|------|------|------------|-----------------------|------|------|------|------------|------------|
| Start<br>Time                                              | Right                  | Thru | Left | HV   | App. Total | Right                 | Thru | Left | HV   | App. Total | Right                  | Thru | Left | HV   | App. Total | Right                 | Thru | Left | HV   | App. Total | Int. Total |
| Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1 |                        |      |      |      |            |                       |      |      |      |            |                        |      |      |      |            |                       |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 04:30 PM       |                        |      |      |      |            |                       |      |      |      |            |                        |      |      |      |            |                       |      |      |      |            |            |
| 04:30 PM                                                   | 16                     | 58   | 42   | 3    | 119        | 28                    | 117  | 108  | 4    | 257        | 112                    | 64   | 17   | 1    | 194        | 24                    | 98   | 15   | 5    | 142        | 712        |
| 04:45 PM                                                   | 18                     | 42   | 42   | 3    | 105        | 32                    | 121  | 92   | 3    | 248        | 128                    | 82   | 27   | 2    | 239        | 19                    | 109  | 9    | 1    | 138        | 730        |
| 05:00 PM                                                   | 35                     | 43   | 49   | 2    | 129        | 27                    | 146  | 90   | 4    | 267        | 125                    | 70   | 32   | 1    | 228        | 17                    | 95   | 18   | 3    | 133        | 757        |
| 05:15 PM                                                   | 15                     | 39   | 45   | 1    | 100        | 43                    | 137  | 112  | 5    | 297        | 102                    | 68   | 30   | 0    | 200        | 26                    | 97   | 12   | 1    | 136        | 733        |
| Total Volume                                               | 84                     | 182  | 178  | 9    | 453        | 130                   | 521  | 402  | 16   | 1069       | 467                    | 284  | 106  | 4    | 861        | 86                    | 399  | 54   | 10   | 549        | 2932       |
| % App. Total                                               | 18.5                   | 40.2 | 39.3 | 2    |            | 12.2                  | 48.7 | 37.6 | 1.5  |            | 54.2                   | 33   | 12.3 | 0.5  |            | 15.7                  | 72.7 | 9.8  | 1.8  |            |            |
| PHF                                                        | .600                   | .784 | .908 | .750 | .878       | .756                  | .892 | .897 | .800 | .900       | .912                   | .866 | .828 | .500 | .901       | .827                  | .915 | .750 | .500 | .967       | .968       |





File Name : 10 - Route 31 @ Route 11 - 5-19-22

Site Code : 00000010

Start Date : 5/19/2022

Page No : 1

Groups Printed- Peds

|             | Route 11<br>Southbound |      |      |      | Route 31<br>Westbound |      |      |      | Route 11<br>Northbound |      |      |      | Route 31<br>Eastbound |      |      |      | Int. Total |
|-------------|------------------------|------|------|------|-----------------------|------|------|------|------------------------|------|------|------|-----------------------|------|------|------|------------|
| Start Time  | Right                  | Thru | Left | Peds | Right                 | Thru | Left | Peds | Right                  | Thru | Left | Peds | Right                 | Thru | Left | Peds |            |
| 07:00 AM    | 0                      | 0    | 0    | 0    | 0                     | 0    | 0    | 1    | 0                      | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 1          |
| Total       | 0                      | 0    | 0    | 0    | 0                     | 0    | 0    | 1    | 0                      | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 1          |
| 08:15 AM    | 0                      | 0    | 0    | 0    | 0                     | 0    | 0    | 1    | 0                      | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 1          |
| Total       | 0                      | 0    | 0    | 0    | 0                     | 0    | 0    | 1    | 0                      | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 1          |
| 04:15 PM    | 0                      | 0    | 0    | 0    | 0                     | 0    | 0    | 1    | 0                      | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 1          |
| 04:45 PM    | 0                      | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 0                      | 0    | 0    | 1    | 0                     | 0    | 0    | 0    | 1          |
| Total       | 0                      | 0    | 0    | 0    | 0                     | 0    | 0    | 1    | 0                      | 0    | 0    | 1    | 0                     | 0    | 0    | 0    | 2          |
| Grand Total | 0                      | 0    | 0    | 0    | 0                     | 0    | 0    | 3    | 0                      | 0    | 0    | 1    | 0                     | 0    | 0    | 0    | 4          |
| Apprch %    | 0                      | 0    | 0    | 0    | 0                     | 0    | 0    | 100  | 0                      | 0    | 0    | 100  | 0                     | 0    | 0    | 0    |            |
| Total %     | 0                      | 0    | 0    | 0    | 0                     | 0    | 0    | 75   | 0                      | 0    | 0    | 25   | 0                     | 0    | 0    | 0    |            |



File Name : 10 - Route 31 @ Route 11 - 5-21-22

Site Code : 00000010

Start Date : 5/21/2022

Page No : 1

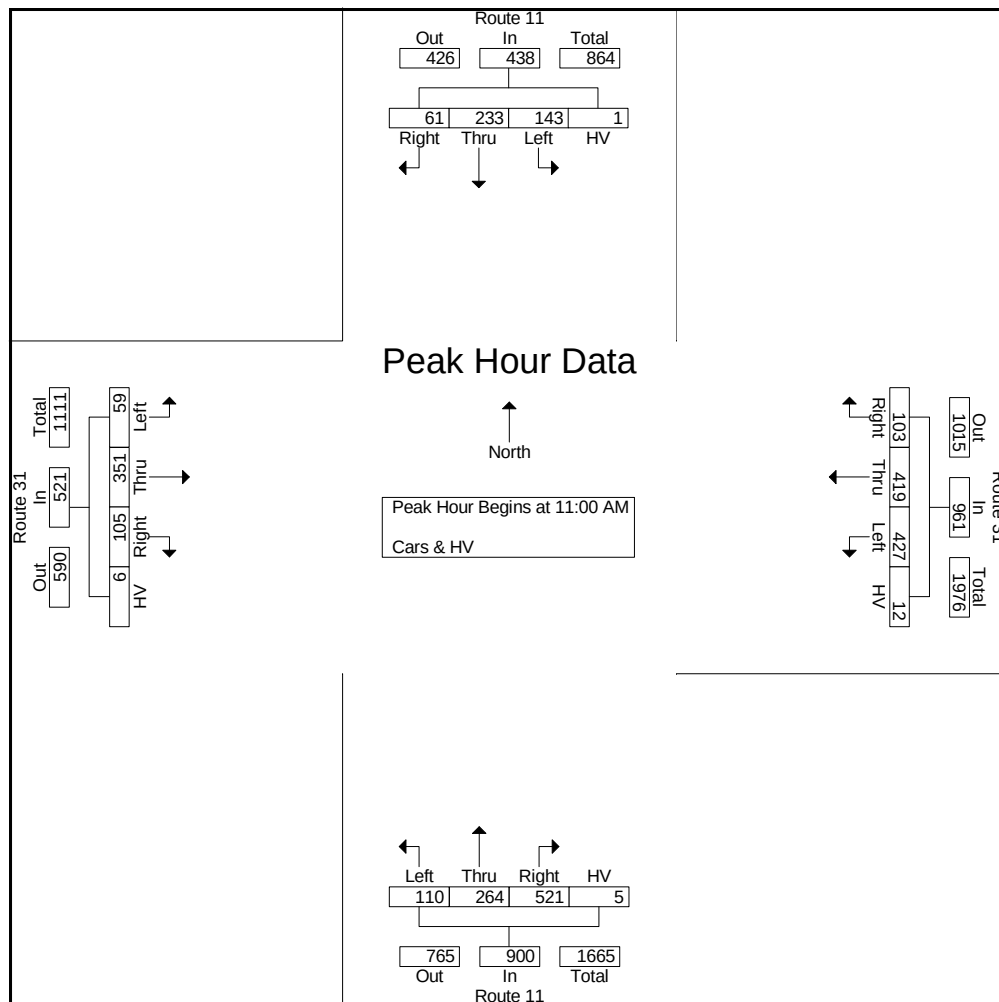
Groups Printed- Cars & HV

|             | Route 11<br>Southbound |      |      |     | Route 31<br>Westbound |      |      |     | Route 11<br>Northbound |      |      |     | Route 31<br>Eastbound |      |      |     |            |
|-------------|------------------------|------|------|-----|-----------------------|------|------|-----|------------------------|------|------|-----|-----------------------|------|------|-----|------------|
| Start Time  | Right                  | Thru | Left | HV  | Right                 | Thru | Left | HV  | Right                  | Thru | Left | HV  | Right                 | Thru | Left | HV  | Int. Total |
| 11:00 AM    | 16                     | 53   | 44   | 0   | 27                    | 120  | 114  | 4   | 145                    | 62   | 29   | 1   | 20                    | 93   | 14   | 1   | 743        |
| 11:15 AM    | 15                     | 52   | 34   | 0   | 24                    | 88   | 103  | 2   | 136                    | 75   | 18   | 0   | 29                    | 73   | 20   | 3   | 672        |
| 11:30 AM    | 16                     | 71   | 36   | 1   | 17                    | 105  | 99   | 2   | 111                    | 57   | 29   | 1   | 31                    | 103  | 15   | 2   | 696        |
| 11:45 AM    | 14                     | 57   | 29   | 0   | 35                    | 106  | 111  | 4   | 129                    | 70   | 34   | 3   | 25                    | 82   | 10   | 0   | 709        |
| Total       | 61                     | 233  | 143  | 1   | 103                   | 419  | 427  | 12  | 521                    | 264  | 110  | 5   | 105                   | 351  | 59   | 6   | 2820       |
| 12:00 PM    | 9                      | 60   | 47   | 0   | 20                    | 98   | 98   | 1   | 105                    | 45   | 29   | 1   | 11                    | 93   | 12   | 1   | 630        |
| 12:15 PM    | 16                     | 45   | 39   | 1   | 13                    | 97   | 110  | 0   | 154                    | 77   | 29   | 0   | 18                    | 74   | 8    | 0   | 681        |
| 12:30 PM    | 10                     | 38   | 35   | 1   | 20                    | 88   | 102  | 1   | 119                    | 63   | 20   | 0   | 24                    | 111  | 10   | 1   | 643        |
| 12:45 PM    | 9                      | 35   | 31   | 0   | 19                    | 76   | 112  | 0   | 126                    | 73   | 33   | 1   | 16                    | 80   | 18   | 0   | 629        |
| Total       | 44                     | 178  | 152  | 2   | 72                    | 359  | 422  | 2   | 504                    | 258  | 111  | 2   | 69                    | 358  | 48   | 2   | 2583       |
| Grand Total | 105                    | 411  | 295  | 3   | 175                   | 778  | 849  | 14  | 1025                   | 522  | 221  | 7   | 174                   | 709  | 107  | 8   | 5403       |
| Apprch %    | 12.9                   | 50.5 | 36.2 | 0.4 | 9.6                   | 42.8 | 46.8 | 0.8 | 57.7                   | 29.4 | 12.5 | 0.4 | 17.4                  | 71   | 10.7 | 0.8 |            |
| Total %     | 1.9                    | 7.6  | 5.5  | 0.1 | 3.2                   | 14.4 | 15.7 | 0.3 | 19                     | 9.7  | 4.1  | 0.1 | 3.2                   | 13.1 | 2    | 0.1 |            |



File Name : 10 - Route 31 @ Route 11 - 5-21-22  
 Site Code : 00000010  
 Start Date : 5/21/2022  
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|                                                            | Route 11<br>Southbound |      |      |      |            | Route 31<br>Westbound |      |      |      |            | Route 11<br>Northbound |      |      |      |            | Route 31<br>Eastbound |      |      |      |            |            |
|------------------------------------------------------------|------------------------|------|------|------|------------|-----------------------|------|------|------|------------|------------------------|------|------|------|------------|-----------------------|------|------|------|------------|------------|
| Start Time                                                 | Right                  | Thru | Left | HV   | App. Total | Right                 | Thru | Left | HV   | App. Total | Right                  | Thru | Left | HV   | App. Total | Right                 | Thru | Left | HV   | App. Total | Int. Total |
| Peak Hour Analysis From 11:00 AM to 12:45 PM - Peak 1 of 1 |                        |      |      |      |            |                       |      |      |      |            |                        |      |      |      |            |                       |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 11:00 AM       |                        |      |      |      |            |                       |      |      |      |            |                        |      |      |      |            |                       |      |      |      |            |            |
| 11:00 AM                                                   | 16                     | 53   | 44   | 0    | 113        | 27                    | 120  | 114  | 4    | 265        | 145                    | 62   | 29   | 1    | 237        | 20                    | 93   | 14   | 1    | 128        | 743        |
| 11:15 AM                                                   | 15                     | 52   | 34   | 0    | 101        | 24                    | 88   | 103  | 2    | 217        | 136                    | 75   | 18   | 0    | 229        | 29                    | 73   | 20   | 3    | 125        | 672        |
| 11:30 AM                                                   | 16                     | 71   | 36   | 1    | 124        | 17                    | 105  | 99   | 2    | 223        | 111                    | 57   | 29   | 1    | 198        | 31                    | 103  | 15   | 2    | 151        | 696        |
| 11:45 AM                                                   | 14                     | 57   | 29   | 0    | 100        | 35                    | 106  | 111  | 4    | 256        | 129                    | 70   | 34   | 3    | 236        | 25                    | 82   | 10   | 0    | 117        | 709        |
| Total Volume                                               | 61                     | 233  | 143  | 1    | 438        | 103                   | 419  | 427  | 12   | 961        | 521                    | 264  | 110  | 5    | 900        | 105                   | 351  | 59   | 6    | 521        | 2820       |
| % App. Total                                               | 13.9                   | 53.2 | 32.6 | 0.2  |            | 10.7                  | 43.6 | 44.4 | 1.2  |            | 57.9                   | 29.3 | 12.2 | 0.6  |            | 20.2                  | 67.4 | 11.3 | 1.2  |            |            |
| PHF                                                        | .953                   | .820 | .813 | .250 | .883       | .736                  | .873 | .936 | .750 | .907       | .898                   | .880 | .809 | .417 | .949       | .847                  | .852 | .738 | .500 | .863       | .949       |





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### Groups Printed- Peds

|             | Route 11<br>Southbound |      |      |      | Route 31<br>Westbound |      |      |      | Route 11<br>Northbound |      |      |      | Route 31<br>Eastbound |      |      |      |            |
|-------------|------------------------|------|------|------|-----------------------|------|------|------|------------------------|------|------|------|-----------------------|------|------|------|------------|
| Start Time  | Right                  | Thru | Left | Peds | Right                 | Thru | Left | Peds | Right                  | Thru | Left | Peds | Right                 | Thru | Left | Peds | Int. Total |
| Grand Total | 0                      | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 0                      | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 0          |
| Apprch %    | 0                      | 0    | 0    | 0    | 0                     | 0    | 0    | 0    | 0                      | 0    | 0    | 0    | 0                     | 0    | 0    | 0    |            |
| Total %     |                        |      |      |      |                       |      |      |      |                        |      |      |      |                       |      |      |      |            |



File Name : 11 - South Bay @ Thompson Road - 5-18-22

Site Code : 00000011

Start Date : 5/18/2022

Page No : 1

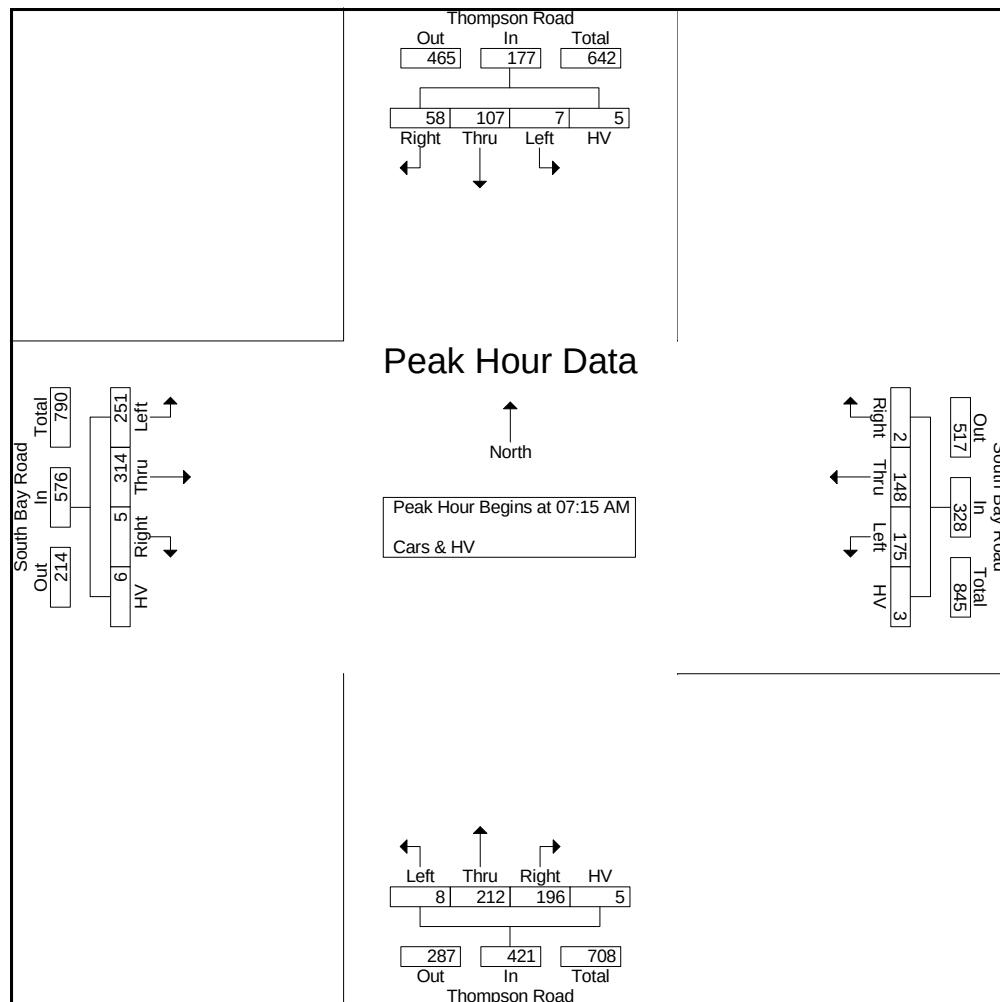
Groups Printed- Cars & HV

|             | Thompson Road Southbound |      |      |     | South Bay Road Westbound |      |      |     | Thompson Road Northbound |      |      |     | South Bay Road Eastbound |      |      |     |            |
|-------------|--------------------------|------|------|-----|--------------------------|------|------|-----|--------------------------|------|------|-----|--------------------------|------|------|-----|------------|
| Start Time  | Right                    | Thru | Left | HV  | Right                    | Thru | Left | HV  | Right                    | Thru | Left | HV  | Right                    | Thru | Left | HV  | Int. Total |
| 07:00 AM    | 11                       | 28   | 1    | 3   | 0                        | 17   | 31   | 1   | 29                       | 51   | 3    | 0   | 2                        | 79   | 35   | 1   | 292        |
| 07:15 AM    | 11                       | 37   | 1    | 1   | 1                        | 25   | 51   | 3   | 35                       | 51   | 1    | 4   | 1                        | 70   | 64   | 1   | 357        |
| 07:30 AM    | 14                       | 24   | 2    | 2   | 1                        | 33   | 26   | 0   | 62                       | 73   | 2    | 0   | 1                        | 88   | 73   | 2   | 403        |
| 07:45 AM    | 19                       | 24   | 4    | 0   | 0                        | 39   | 56   | 0   | 47                       | 50   | 5    | 1   | 3                        | 91   | 62   | 2   | 403        |
| Total       | 55                       | 113  | 8    | 6   | 2                        | 114  | 164  | 4   | 173                      | 225  | 11   | 5   | 7                        | 328  | 234  | 6   | 1455       |
| 08:00 AM    | 14                       | 22   | 0    | 2   | 0                        | 51   | 42   | 0   | 52                       | 38   | 0    | 0   | 0                        | 65   | 52   | 1   | 339        |
| 08:15 AM    | 23                       | 26   | 4    | 1   | 0                        | 39   | 26   | 1   | 37                       | 35   | 2    | 0   | 2                        | 39   | 31   | 1   | 267        |
| 08:30 AM    | 8                        | 24   | 0    | 1   | 0                        | 30   | 31   | 0   | 23                       | 42   | 1    | 2   | 2                        | 60   | 40   | 3   | 267        |
| 08:45 AM    | 14                       | 25   | 3    | 2   | 3                        | 36   | 28   | 0   | 19                       | 33   | 5    | 0   | 5                        | 44   | 19   | 4   | 240        |
| Total       | 59                       | 97   | 7    | 6   | 3                        | 156  | 127  | 1   | 131                      | 148  | 8    | 2   | 9                        | 208  | 142  | 9   | 1113       |
| 04:00 PM    | 41                       | 42   | 3    | 0   | 4                        | 88   | 28   | 0   | 39                       | 60   | 4    | 0   | 0                        | 60   | 53   | 2   | 424        |
| 04:15 PM    | 47                       | 27   | 7    | 1   | 3                        | 48   | 28   | 0   | 55                       | 58   | 2    | 0   | 1                        | 71   | 64   | 0   | 412        |
| 04:30 PM    | 42                       | 33   | 2    | 1   | 7                        | 44   | 24   | 0   | 60                       | 61   | 6    | 0   | 1                        | 72   | 55   | 0   | 408        |
| 04:45 PM    | 59                       | 34   | 2    | 0   | 15                       | 60   | 21   | 1   | 48                       | 65   | 4    | 0   | 1                        | 70   | 59   | 0   | 439        |
| Total       | 189                      | 136  | 14   | 2   | 29                       | 240  | 101  | 1   | 202                      | 244  | 16   | 0   | 3                        | 273  | 231  | 2   | 1683       |
| 05:00 PM    | 67                       | 23   | 2    | 1   | 1                        | 87   | 20   | 0   | 60                       | 68   | 4    | 0   | 0                        | 76   | 49   | 0   | 458        |
| 05:15 PM    | 45                       | 32   | 1    | 0   | 2                        | 72   | 26   | 0   | 49                       | 78   | 2    | 0   | 0                        | 79   | 59   | 1   | 446        |
| 05:30 PM    | 49                       | 31   | 8    | 0   | 0                        | 55   | 20   | 0   | 43                       | 52   | 1    | 1   | 0                        | 68   | 47   | 0   | 375        |
| 05:45 PM    | 48                       | 38   | 1    | 0   | 4                        | 59   | 27   | 1   | 31                       | 47   | 1    | 2   | 0                        | 75   | 49   | 0   | 383        |
| Total       | 209                      | 124  | 12   | 1   | 7                        | 273  | 93   | 1   | 183                      | 245  | 8    | 3   | 0                        | 298  | 204  | 1   | 1662       |
| Grand Total | 512                      | 470  | 41   | 15  | 41                       | 783  | 485  | 7   | 689                      | 862  | 43   | 10  | 19                       | 1107 | 811  | 18  | 5913       |
| Apprch %    | 49.3                     | 45.3 | 3.9  | 1.4 | 3.1                      | 59.5 | 36.9 | 0.5 | 43                       | 53.7 | 2.7  | 0.6 | 1                        | 56.6 | 41.5 | 0.9 |            |
| Total %     | 8.7                      | 7.9  | 0.7  | 0.3 | 0.7                      | 13.2 | 8.2  | 0.1 | 11.7                     | 14.6 | 0.7  | 0.2 | 0.3                      | 18.7 | 13.7 | 0.3 |            |



File Name : 11 - South Bay @ Thompson Road - 5-18-22  
 Site Code : 00000011  
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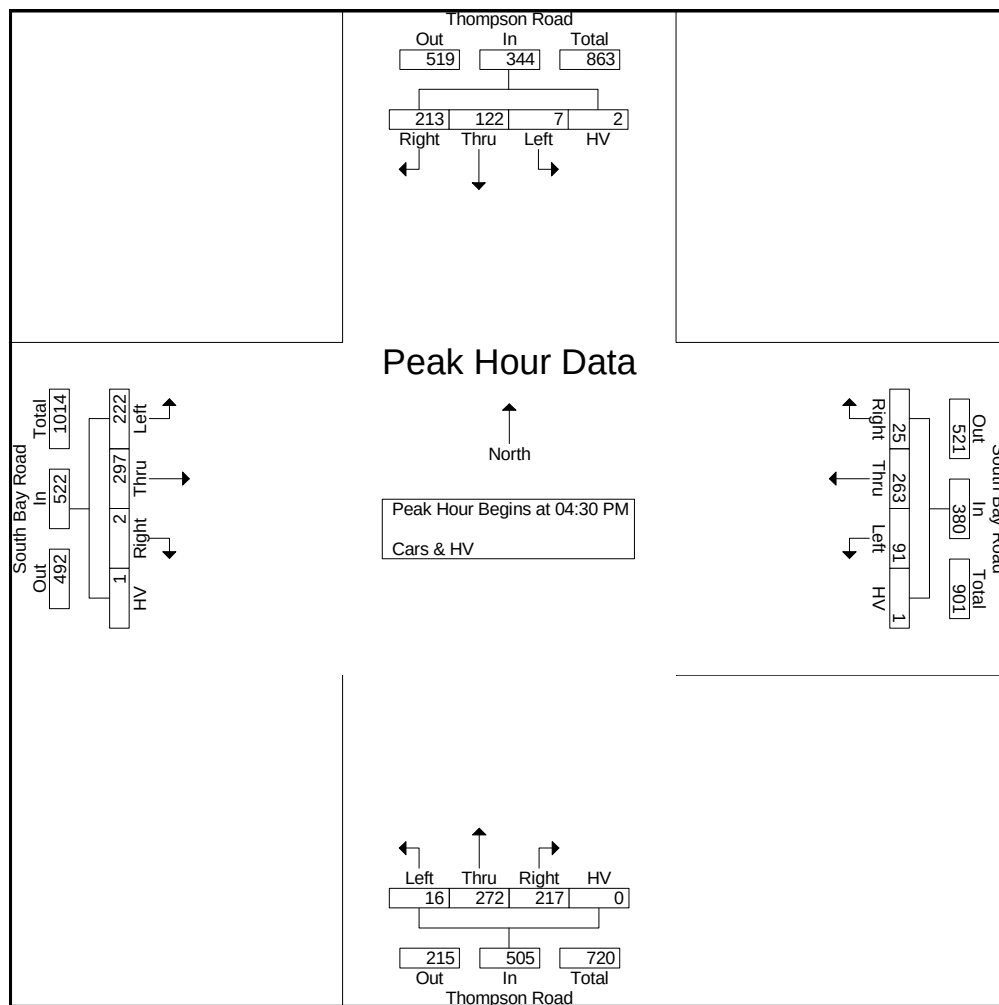
|                                                            | Thompson Road Southbound |      |      |      |            | South Bay Road Westbound |      |      |      |            | Thompson Road Northbound |      |      |      |            | South Bay Road Eastbound |      |      |      |            |            |
|------------------------------------------------------------|--------------------------|------|------|------|------------|--------------------------|------|------|------|------------|--------------------------|------|------|------|------------|--------------------------|------|------|------|------------|------------|
| Start Time                                                 | Right                    | Thru | Left | HV   | App. Total | Right                    | Thru | Left | HV   | App. Total | Right                    | Thru | Left | HV   | App. Total | Right                    | Thru | Left | HV   | App. Total | Int. Total |
| Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1 |                          |      |      |      |            |                          |      |      |      |            |                          |      |      |      |            |                          |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 07:15 AM       |                          |      |      |      |            |                          |      |      |      |            |                          |      |      |      |            |                          |      |      |      |            |            |
| 07:15 AM                                                   | 11                       | 37   | 1    | 1    | 50         | 1                        | 25   | 51   | 3    | 80         | 35                       | 51   | 1    | 4    | 91         | 1                        | 70   | 64   | 1    | 136        | 357        |
| 07:30 AM                                                   | 14                       | 24   | 2    | 2    | 42         | 1                        | 33   | 26   | 0    | 60         | 62                       | 73   | 2    | 0    | 137        | 1                        | 88   | 73   | 2    | 164        | 403        |
| 07:45 AM                                                   | 19                       | 24   | 4    | 0    | 47         | 0                        | 39   | 56   | 0    | 95         | 47                       | 50   | 5    | 1    | 103        | 3                        | 91   | 62   | 2    | 158        | 403        |
| 08:00 AM                                                   | 14                       | 22   | 0    | 2    | 38         | 0                        | 51   | 42   | 0    | 93         | 52                       | 38   | 0    | 0    | 90         | 0                        | 65   | 52   | 1    | 118        | 339        |
| Total Volume                                               | 58                       | 107  | 7    | 5    | 177        | 2                        | 148  | 175  | 3    | 328        | 196                      | 212  | 8    | 5    | 421        | 5                        | 314  | 251  | 6    | 576        | 1502       |
| % App. Total                                               | 32.8                     | 60.5 | 4    | 2.8  |            | 0.6                      | 45.1 | 53.4 | 0.9  |            | 46.6                     | 50.4 | 1.9  | 1.2  |            | 0.9                      | 54.5 | 43.6 | 1    |            |            |
| PHF                                                        | .763                     | .723 | .438 | .625 | .885       | .500                     | .725 | .781 | .250 | .863       | .790                     | .726 | .400 | .313 | .768       | .417                     | .863 | .860 | .750 | .878       | .932       |





File Name : 11 - South Bay @ Thompson Road - 5-18-22  
 Site Code : 00000011  
 Start Date : 5/18/2022  
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|                                                            | Thompson Road Southbound |      |      |      |            | South Bay Road Westbound |      |      |      |            | Thompson Road Northbound |      |      |      |            | South Bay Road Eastbound |      |      |      |            |            |
|------------------------------------------------------------|--------------------------|------|------|------|------------|--------------------------|------|------|------|------------|--------------------------|------|------|------|------------|--------------------------|------|------|------|------------|------------|
| Start Time                                                 | Right                    | Thru | Left | HV   | App. Total | Right                    | Thru | Left | HV   | App. Total | Right                    | Thru | Left | HV   | App. Total | Right                    | Thru | Left | HV   | App. Total | Int. Total |
| Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1 |                          |      |      |      |            |                          |      |      |      |            |                          |      |      |      |            |                          |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 04:30 PM       |                          |      |      |      |            |                          |      |      |      |            |                          |      |      |      |            |                          |      |      |      |            |            |
| 04:30 PM                                                   | 42                       | 33   | 2    | 1    | 78         | 7                        | 44   | 24   | 0    | 75         | 60                       | 61   | 6    | 0    | 127        | 1                        | 72   | 55   | 0    | 128        | 408        |
| 04:45 PM                                                   | 59                       | 34   | 2    | 0    | 95         | 15                       | 60   | 21   | 1    | 97         | 48                       | 65   | 4    | 0    | 117        | 1                        | 70   | 59   | 0    | 130        | 439        |
| 05:00 PM                                                   | 67                       | 23   | 2    | 1    | 93         | 1                        | 87   | 20   | 0    | 108        | 60                       | 68   | 4    | 0    | 132        | 0                        | 76   | 49   | 0    | 125        | 458        |
| 05:15 PM                                                   | 45                       | 32   | 1    | 0    | 78         | 2                        | 72   | 26   | 0    | 100        | 49                       | 78   | 2    | 0    | 129        | 0                        | 79   | 59   | 1    | 139        | 446        |
| Total Volume                                               | 213                      | 122  | 7    | 2    | 344        | 25                       | 263  | 91   | 1    | 380        | 217                      | 272  | 16   | 0    | 505        | 2                        | 297  | 222  | 1    | 522        | 1751       |
| % App. Total                                               | 61.9                     | 35.5 | 2    | 0.6  |            | 6.6                      | 69.2 | 23.9 | 0.3  |            | 43                       | 53.9 | 3.2  | 0    |            | 0.4                      | 56.9 | 42.5 | 0.2  |            |            |
| PHF                                                        | .795                     | .897 | .875 | .500 | .905       | .417                     | .756 | .875 | .250 | .880       | .904                     | .872 | .667 | .000 | .956       | .500                     | .940 | .941 | .250 | .939       | .956       |





File Name : 11 - South Bay @ Thompson Road - 5-18-22  
 Site Code : 00000011  
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Groups Printed- Peds

|             | Thompson Road<br>Southbound |      |      |      | South Bay Road<br>Westbound |      |      |      | Thompson Road<br>Northbound |      |      |      | South Bay Road<br>Eastbound |      |      |      |            |
|-------------|-----------------------------|------|------|------|-----------------------------|------|------|------|-----------------------------|------|------|------|-----------------------------|------|------|------|------------|
| Start Time  | Right                       | Thru | Left | Peds | Right                       | Thru | Left | Peds | Right                       | Thru | Left | Peds | Right                       | Thru | Left | Peds | Int. Total |
| 07:00 AM    | 0                           | 0    | 0    | 0    | 0                           | 0    | 0    | 0    | 0                           | 0    | 0    | 0    | 0                           | 1    | 0    | 0    | 1          |
| 07:15 AM    | 0                           | 0    | 0    | 0    | 0                           | 0    | 0    | 0    | 0                           | 0    | 0    | 0    | 1                           | 0    | 0    | 0    | 1          |
| Total       | 0                           | 0    | 0    | 0    | 0                           | 0    | 0    | 0    | 0                           | 0    | 0    | 0    | 1                           | 1    | 0    | 0    | 2          |
| Grand Total | 0                           | 0    | 0    | 0    | 0                           | 0    | 0    | 0    | 0                           | 0    | 0    | 0    | 1                           | 1    | 0    | 0    | 2          |
| Apprch %    | 0                           | 0    | 0    | 0    | 0                           | 0    | 0    | 0    | 0                           | 0    | 0    | 0    | 50                          | 50   | 0    | 0    |            |
| Total %     | 0                           | 0    | 0    | 0    | 0                           | 0    | 0    | 0    | 0                           | 0    | 0    | 0    | 50                          | 50   | 0    | 0    |            |



File Name : 11 - South Bay @ Thompson Road - 5-19-22

Site Code : 00000011

Start Date : 5/19/2022

Page No : 1

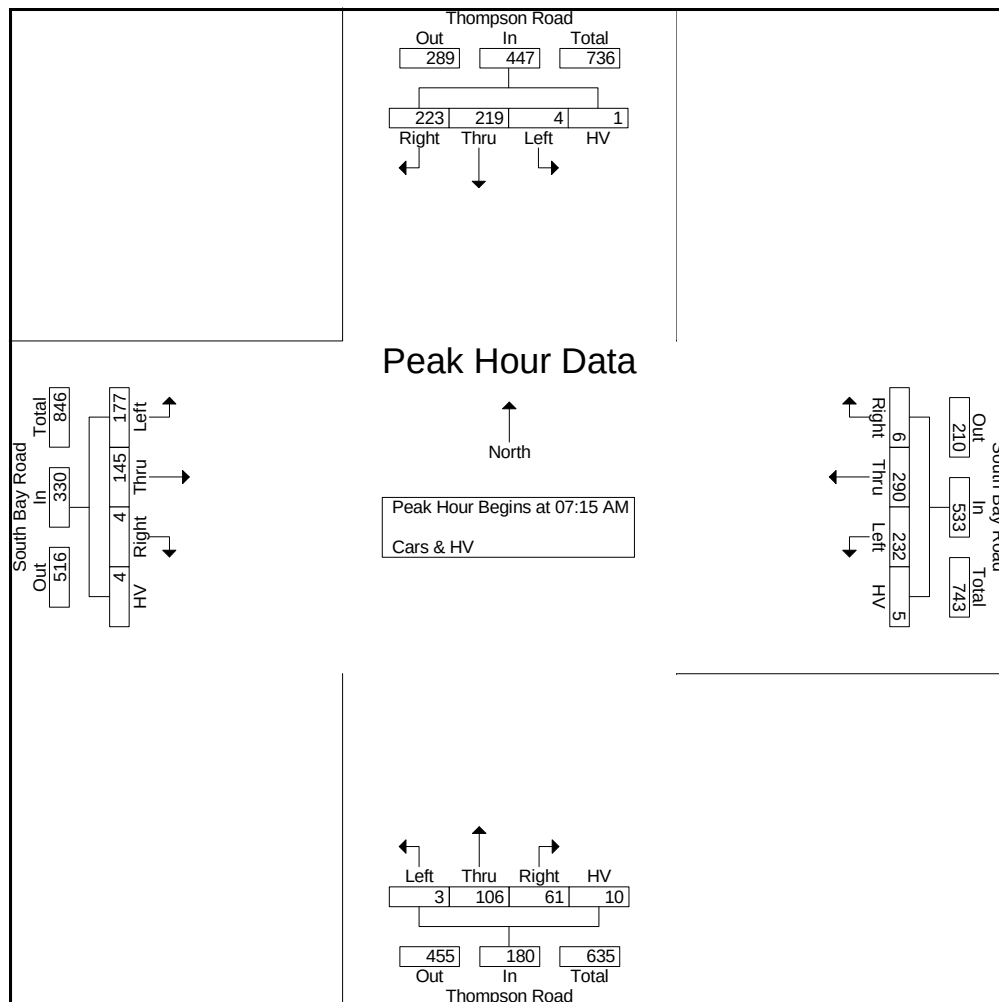
Groups Printed- Cars & HV

|             | Thompson Road Southbound |      |      |     | South Bay Road Westbound |      |      |     | Thompson Road Northbound |      |      |     | South Bay Road Eastbound |      |      |     |            |
|-------------|--------------------------|------|------|-----|--------------------------|------|------|-----|--------------------------|------|------|-----|--------------------------|------|------|-----|------------|
| Start Time  | Right                    | Thru | Left | HV  | Right                    | Thru | Left | HV  | Right                    | Thru | Left | HV  | Right                    | Thru | Left | HV  | Int. Total |
| 07:15 AM    | 38                       | 58   | 1    | 0   | 2                        | 70   | 66   | 0   | 10                       | 40   | 1    | 3   | 0                        | 29   | 50   | 1   | 369        |
| 07:30 AM    | 64                       | 58   | 1    | 0   | 0                        | 89   | 65   | 2   | 16                       | 29   | 0    | 4   | 0                        | 39   | 32   | 0   | 399        |
| 07:45 AM    | 73                       | 53   | 1    | 0   | 0                        | 81   | 52   | 1   | 15                       | 17   | 2    | 1   | 2                        | 37   | 47   | 1   | 383        |
| Total       | 175                      | 169  | 3    | 0   | 2                        | 240  | 183  | 3   | 41                       | 86   | 3    | 8   | 2                        | 105  | 129  | 2   | 1151       |
| 08:00 AM    | 48                       | 50   | 1    | 1   | 4                        | 50   | 49   | 2   | 20                       | 20   | 0    | 2   | 2                        | 40   | 48   | 2   | 339        |
| 08:15 AM    | 34                       | 41   | 0    | 0   | 3                        | 48   | 41   | 3   | 23                       | 18   | 0    | 1   | 1                        | 37   | 35   | 0   | 285        |
| 08:30 AM    | 26                       | 44   | 0    | 1   | 0                        | 77   | 34   | 1   | 16                       | 9    | 1    | 3   | 2                        | 32   | 21   | 1   | 268        |
| 08:45 AM    | 22                       | 30   | 2    | 1   | 2                        | 41   | 17   | 1   | 9                        | 24   | 3    | 3   | 4                        | 19   | 32   | 1   | 211        |
| Total       | 130                      | 165  | 3    | 3   | 9                        | 216  | 141  | 7   | 68                       | 71   | 4    | 9   | 9                        | 128  | 136  | 4   | 1103       |
| 04:00 PM    | 66                       | 30   | 1    | 0   | 4                        | 89   | 26   | 1   | 38                       | 52   | 1    | 0   | 0                        | 89   | 59   | 0   | 456        |
| 04:15 PM    | 31                       | 27   | 5    | 2   | 2                        | 53   | 15   | 1   | 42                       | 68   | 4    | 1   | 1                        | 100  | 105  | 0   | 457        |
| 04:30 PM    | 40                       | 33   | 2    | 0   | 7                        | 41   | 30   | 1   | 38                       | 72   | 4    | 0   | 0                        | 75   | 65   | 0   | 408        |
| 04:45 PM    | 34                       | 30   | 1    | 1   | 0                        | 60   | 20   | 0   | 43                       | 56   | 7    | 1   | 0                        | 64   | 56   | 0   | 373        |
| Total       | 171                      | 120  | 9    | 3   | 13                       | 243  | 91   | 3   | 161                      | 248  | 16   | 2   | 1                        | 328  | 285  | 0   | 1694       |
| 05:00 PM    | 52                       | 39   | 2    | 2   | 5                        | 50   | 34   | 1   | 57                       | 71   | 2    | 0   | 0                        | 79   | 62   | 0   | 456        |
| 05:15 PM    | 40                       | 44   | 1    | 0   | 0                        | 60   | 35   | 1   | 47                       | 69   | 2    | 0   | 1                        | 83   | 55   | 0   | 438        |
| 05:30 PM    | 51                       | 29   | 1    | 0   | 1                        | 54   | 24   | 0   | 34                       | 44   | 1    | 0   | 1                        | 63   | 53   | 0   | 356        |
| 05:45 PM    | 21                       | 42   | 1    | 0   | 1                        | 52   | 16   | 0   | 31                       | 56   | 0    | 0   | 0                        | 78   | 40   | 0   | 338        |
| Total       | 164                      | 154  | 5    | 2   | 7                        | 216  | 109  | 2   | 169                      | 240  | 5    | 0   | 2                        | 303  | 210  | 0   | 1588       |
| Grand Total | 640                      | 608  | 20   | 8   | 31                       | 915  | 524  | 15  | 439                      | 645  | 28   | 19  | 14                       | 864  | 760  | 6   | 5536       |
| Apprch %    | 50.2                     | 47.6 | 1.6  | 0.6 | 2.1                      | 61.6 | 35.3 | 1   | 38.8                     | 57   | 2.5  | 1.7 | 0.9                      | 52.6 | 46.2 | 0.4 |            |
| Total %     | 11.6                     | 11   | 0.4  | 0.1 | 0.6                      | 16.5 | 9.5  | 0.3 | 7.9                      | 11.7 | 0.5  | 0.3 | 0.3                      | 15.6 | 13.7 | 0.1 |            |



File Name : 11 - South Bay @ Thompson Road - 5-19-22  
 Site Code : 00000011  
 Start Date : 5/19/2022  
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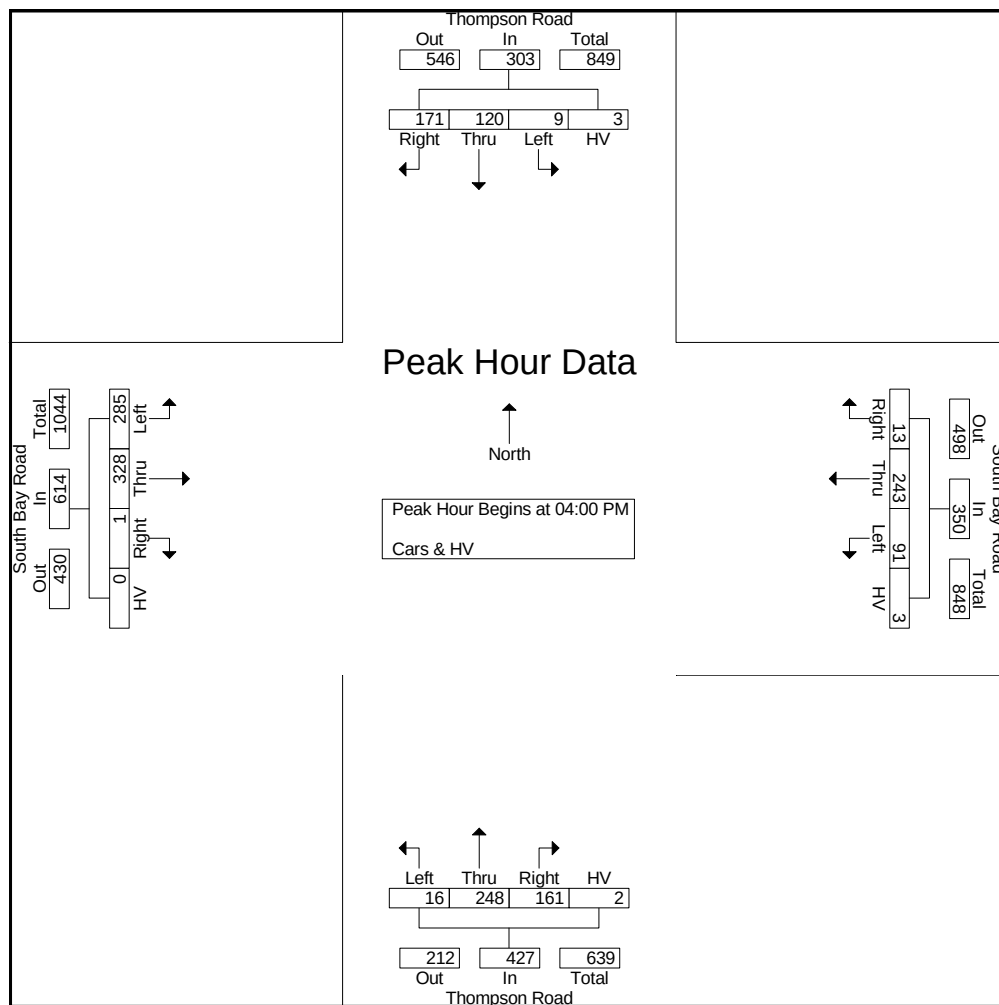
|                                                            | Thompson Road Southbound |      |      |      |            | South Bay Road Westbound |      |      |      |            | Thompson Road Northbound |      |      |      |            | South Bay Road Eastbound |      |      |      |            |            |
|------------------------------------------------------------|--------------------------|------|------|------|------------|--------------------------|------|------|------|------------|--------------------------|------|------|------|------------|--------------------------|------|------|------|------------|------------|
| Start Time                                                 | Right                    | Thru | Left | HV   | App. Total | Right                    | Thru | Left | HV   | App. Total | Right                    | Thru | Left | HV   | App. Total | Right                    | Thru | Left | HV   | App. Total | Int. Total |
| Peak Hour Analysis From 07:15 AM to 11:45 AM - Peak 1 of 1 |                          |      |      |      |            |                          |      |      |      |            |                          |      |      |      |            |                          |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 07:15 AM       |                          |      |      |      |            |                          |      |      |      |            |                          |      |      |      |            |                          |      |      |      |            |            |
| 07:15 AM                                                   | 38                       | 58   | 1    | 0    | 97         | 2                        | 70   | 66   | 0    | 138        | 10                       | 40   | 1    | 3    | 54         | 0                        | 29   | 50   | 1    | 80         | 369        |
| 07:30 AM                                                   | 64                       | 58   | 1    | 0    | 123        | 0                        | 89   | 65   | 2    | 156        | 16                       | 29   | 0    | 4    | 49         | 0                        | 39   | 32   | 0    | 71         | 399        |
| 07:45 AM                                                   | 73                       | 53   | 1    | 0    | 127        | 0                        | 81   | 52   | 1    | 134        | 15                       | 17   | 2    | 1    | 35         | 2                        | 37   | 47   | 1    | 87         | 383        |
| 08:00 AM                                                   | 48                       | 50   | 1    | 1    | 100        | 4                        | 50   | 49   | 2    | 105        | 20                       | 20   | 0    | 2    | 42         | 2                        | 40   | 48   | 2    | 92         | 339        |
| Total Volume                                               | 223                      | 219  | 4    | 1    | 447        | 6                        | 290  | 232  | 5    | 533        | 61                       | 106  | 3    | 10   | 180        | 4                        | 145  | 177  | 4    | 330        | 1490       |
| % App. Total                                               | 49.9                     | 49   | 0.9  | 0.2  |            | 1.1                      | 54.4 | 43.5 | 0.9  |            | 33.9                     | 58.9 | 1.7  | 5.6  |            | 1.2                      | 43.9 | 53.6 | 1.2  |            |            |
| PHF                                                        | .764                     | .944 | 1.00 | .250 | .880       | .375                     | .815 | .879 | .625 | .854       | .763                     | .663 | .375 | .625 | .833       | .500                     | .906 | .885 | .500 | .897       | .934       |





File Name : 11 - South Bay @ Thompson Road - 5-19-22  
 Site Code : 00000011  
 Start Date : 5/19/2022  
 Page No : 3

|                                                            | Thompson Road Southbound |      |      |      |            | South Bay Road Westbound |      |      |      |            | Thompson Road Northbound |      |      |      |            | South Bay Road Eastbound |      |      |      |            |            |
|------------------------------------------------------------|--------------------------|------|------|------|------------|--------------------------|------|------|------|------------|--------------------------|------|------|------|------------|--------------------------|------|------|------|------------|------------|
| Start Time                                                 | Right                    | Thru | Left | HV   | App. Total | Right                    | Thru | Left | HV   | App. Total | Right                    | Thru | Left | HV   | App. Total | Right                    | Thru | Left | HV   | App. Total | Int. Total |
| Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1 |                          |      |      |      |            |                          |      |      |      |            |                          |      |      |      |            |                          |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 04:00 PM       |                          |      |      |      |            |                          |      |      |      |            |                          |      |      |      |            |                          |      |      |      |            |            |
| 04:00 PM                                                   | 66                       | 30   | 1    | 0    | 97         | 4                        | 89   | 26   | 1    | 120        | 38                       | 52   | 1    | 0    | 91         | 0                        | 89   | 59   | 0    | 148        | 456        |
| 04:15 PM                                                   | 31                       | 27   | 5    | 2    | 65         | 2                        | 53   | 15   | 1    | 71         | 42                       | 68   | 4    | 1    | 115        | 1                        | 100  | 105  | 0    | 206        | 457        |
| 04:30 PM                                                   | 40                       | 33   | 2    | 0    | 75         | 7                        | 41   | 30   | 1    | 79         | 38                       | 72   | 4    | 0    | 114        | 0                        | 75   | 65   | 0    | 140        | 408        |
| 04:45 PM                                                   | 34                       | 30   | 1    | 1    | 66         | 0                        | 60   | 20   | 0    | 80         | 43                       | 56   | 7    | 1    | 107        | 0                        | 64   | 56   | 0    | 120        | 373        |
| Total Volume                                               | 171                      | 120  | 9    | 3    | 303        | 13                       | 243  | 91   | 3    | 350        | 161                      | 248  | 16   | 2    | 427        | 1                        | 328  | 285  | 0    | 614        | 1694       |
| % App. Total                                               | 56.4                     | 39.6 | 3    | 1    |            | 3.7                      | 69.4 | 26   | 0.9  |            | 37.7                     | 58.1 | 3.7  | 0.5  |            | 0.2                      | 53.4 | 46.4 | 0    |            |            |
| PHF                                                        | .648                     | .909 | .450 | .375 | .781       | .464                     | .683 | .758 | .750 | .729       | .936                     | .861 | .571 | .500 | .928       | .250                     | .820 | .679 | .000 | .745       | .927       |





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File Name : 11 - South Bay @ Thompson Road - 5-21-22

Site Code : 00000011

Start Date : 5/21/2022

Page No : 1

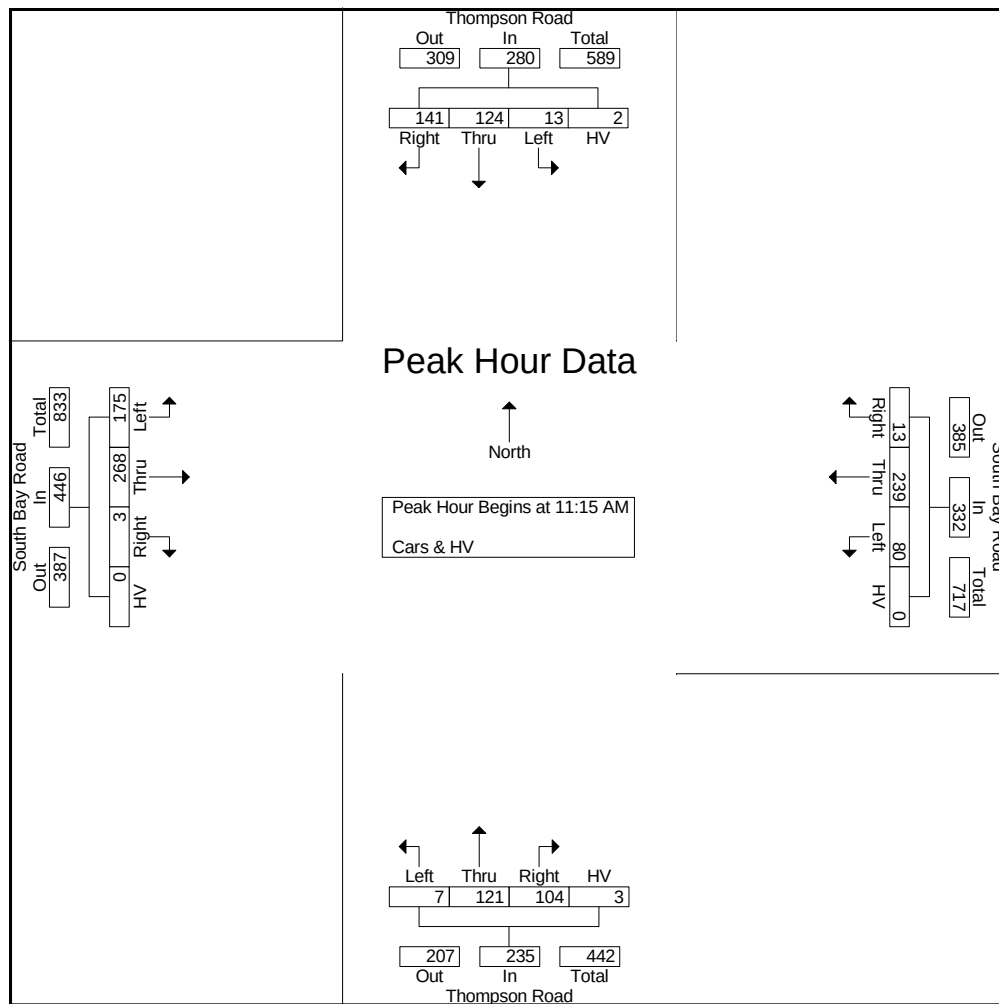
Groups Printed- Cars & HV

|             | Thompson Road<br>Southbound |      |      |     | South Bay Road<br>Westbound |      |      |     | Thompson Road<br>Northbound |      |      |     | South Bay Road<br>Eastbound |      |      |     |            |
|-------------|-----------------------------|------|------|-----|-----------------------------|------|------|-----|-----------------------------|------|------|-----|-----------------------------|------|------|-----|------------|
| Start Time  | Right                       | Thru | Left | HV  | Right                       | Thru | Left | HV  | Right                       | Thru | Left | HV  | Right                       | Thru | Left | HV  | Int. Total |
| 11:00 AM    | 41                          | 28   | 3    | 0   | 2                           | 68   | 20   | 1   | 21                          | 26   | 1    | 0   | 1                           | 60   | 38   | 1   | 311        |
| 11:15 AM    | 25                          | 38   | 5    | 1   | 3                           | 58   | 25   | 0   | 24                          | 28   | 1    | 0   | 0                           | 64   | 46   | 0   | 318        |
| 11:30 AM    | 40                          | 23   | 2    | 0   | 3                           | 71   | 19   | 0   | 20                          | 28   | 0    | 0   | 1                           | 60   | 41   | 0   | 308        |
| 11:45 AM    | 32                          | 40   | 3    | 1   | 4                           | 48   | 20   | 0   | 23                          | 40   | 4    | 1   | 0                           | 78   | 36   | 0   | 330        |
| Total       | 138                         | 129  | 13   | 2   | 12                          | 245  | 84   | 1   | 88                          | 122  | 6    | 1   | 2                           | 262  | 161  | 1   | 1267       |
| 12:00 PM    | 44                          | 23   | 3    | 0   | 3                           | 62   | 16   | 0   | 37                          | 25   | 2    | 2   | 2                           | 66   | 52   | 0   | 337        |
| 12:15 PM    | 35                          | 25   | 4    | 3   | 5                           | 53   | 21   | 2   | 19                          | 27   | 1    | 0   | 2                           | 57   | 57   | 0   | 311        |
| 12:30 PM    | 32                          | 24   | 5    | 1   | 10                          | 60   | 20   | 1   | 22                          | 28   | 1    | 1   | 1                           | 58   | 50   | 0   | 314        |
| 12:45 PM    | 41                          | 24   | 1    | 0   | 2                           | 62   | 29   | 0   | 27                          | 31   | 0    | 3   | 0                           | 51   | 47   | 1   | 319        |
| Total       | 152                         | 96   | 13   | 4   | 20                          | 237  | 86   | 3   | 105                         | 111  | 4    | 6   | 5                           | 232  | 206  | 1   | 1281       |
| Grand Total | 290                         | 225  | 26   | 6   | 32                          | 482  | 170  | 4   | 193                         | 233  | 10   | 7   | 7                           | 494  | 367  | 2   | 2548       |
| Apprch %    | 53                          | 41.1 | 4.8  | 1.1 | 4.7                         | 70.1 | 24.7 | 0.6 | 43.6                        | 52.6 | 2.3  | 1.6 | 0.8                         | 56.8 | 42.2 | 0.2 |            |
| Total %     | 11.4                        | 8.8  | 1    | 0.2 | 1.3                         | 18.9 | 6.7  | 0.2 | 7.6                         | 9.1  | 0.4  | 0.3 | 0.3                         | 19.4 | 14.4 | 0.1 |            |



File Name : 11 - South Bay @ Thompson Road - 5-21-22  
 Site Code : 00000011  
 Start Date : 5/21/2022  
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|                                                            | Thompson Road Southbound |      |      |      |            | South Bay Road Westbound |      |      |      |            | Thompson Road Northbound |      |      |      |            | South Bay Road Eastbound |      |      |      |            |            |
|------------------------------------------------------------|--------------------------|------|------|------|------------|--------------------------|------|------|------|------------|--------------------------|------|------|------|------------|--------------------------|------|------|------|------------|------------|
| Start Time                                                 | Right                    | Thru | Left | HV   | App. Total | Right                    | Thru | Left | HV   | App. Total | Right                    | Thru | Left | HV   | App. Total | Right                    | Thru | Left | HV   | App. Total | Int. Total |
| Peak Hour Analysis From 11:00 AM to 12:45 PM - Peak 1 of 1 |                          |      |      |      |            |                          |      |      |      |            |                          |      |      |      |            |                          |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 11:15 AM       |                          |      |      |      |            |                          |      |      |      |            |                          |      |      |      |            |                          |      |      |      |            |            |
| 11:15 AM                                                   | 25                       | 38   | 5    | 1    | 69         | 3                        | 58   | 25   | 0    | 86         | 24                       | 28   | 1    | 0    | 53         | 0                        | 64   | 46   | 0    | 110        | 318        |
| 11:30 AM                                                   | 40                       | 23   | 2    | 0    | 65         | 3                        | 71   | 19   | 0    | 93         | 20                       | 28   | 0    | 0    | 48         | 1                        | 60   | 41   | 0    | 102        | 308        |
| 11:45 AM                                                   | 32                       | 40   | 3    | 1    | 76         | 4                        | 48   | 20   | 0    | 72         | 23                       | 40   | 4    | 1    | 68         | 0                        | 78   | 36   | 0    | 114        | 330        |
| 12:00 PM                                                   | 44                       | 23   | 3    | 0    | 70         | 3                        | 62   | 16   | 0    | 81         | 37                       | 25   | 2    | 2    | 66         | 2                        | 66   | 52   | 0    | 120        | 337        |
| Total Volume                                               | 141                      | 124  | 13   | 2    | 280        | 13                       | 239  | 80   | 0    | 332        | 104                      | 121  | 7    | 3    | 235        | 3                        | 268  | 175  | 0    | 446        | 1293       |
| % App. Total                                               | 50.4                     | 44.3 | 4.6  | 0.7  |            | 3.9                      | 72   | 24.1 | 0    |            | 44.3                     | 51.5 | 3    | 1.3  |            | 0.7                      | 60.1 | 39.2 | 0    |            |            |
| PHF                                                        | .801                     | .775 | .650 | .500 | .921       | .813                     | .842 | .800 | .000 | .892       | .703                     | .756 | .438 | .375 | .864       | .375                     | .859 | .841 | .000 | .929       | .959       |





Page No : 1

Groups Printed- Peds

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## **APPENDIX I**

### Capacity Analysis Printouts



# Lanes, Volumes, Timings

## 1: Route 11 & Route 31

07/05/2022

|                            |  |  |  |  |  |  |   |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |  |  |                                                                                   |  |  |                                                                                   |  |  |  |  |  |                                                                                     |
| Traffic Volume (vph)       | 59                                                                                | 623                                                                               | 49                                                                                | 320                                                                               | 381                                                                               | 100                                                                               | 37                                                                                 | 91                                                                                  | 201                                                                                 | 113                                                                                 | 129                                                                                 | 33                                                                                  |
| Future Volume (vph)        | 59                                                                                | 623                                                                               | 49                                                                                | 320                                                                               | 381                                                                               | 100                                                                               | 37                                                                                 | 91                                                                                  | 201                                                                                 | 113                                                                                 | 129                                                                                 | 33                                                                                  |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                               | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 200                                                                               |                                                                                   | 310                                                                               | 495                                                                               |                                                                                   | 0                                                                                 | 175                                                                                |                                                                                     | 0                                                                                   | 350                                                                                 |                                                                                     | 0                                                                                   |
| Storage Lanes              | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                  |                                                                                     | 1                                                                                   | 1                                                                                   |                                                                                     | 0                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                 |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 1752                                                                              | 3466                                                                              | 0                                                                                 | 1736                                                                              | 3364                                                                              | 0                                                                                 | 1752                                                                               | 1845                                                                                | 1568                                                                                | 1719                                                                                | 3332                                                                                | 0                                                                                   |
| Flt Permitted              | 0.461                                                                             |                                                                                   |                                                                                   | 0.212                                                                             |                                                                                   |                                                                                   | 0.615                                                                              |                                                                                     |                                                                                     | 0.489                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)          | 850                                                                               | 3466                                                                              | 0                                                                                 | 387                                                                               | 3364                                                                              | 0                                                                                 | 1134                                                                               | 1845                                                                                | 1568                                                                                | 885                                                                                 | 3332                                                                                | 0                                                                                   |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                    |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   | 8                                                                                 |                                                                                   |                                                                                   | 43                                                                                |                                                                                   |                                                                                    |                                                                                     | 105                                                                                 |                                                                                     | 24                                                                                  |                                                                                     |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                    | 35                                                                                  |                                                                                     |                                                                                     | 35                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 385                                                                               |                                                                                   |                                                                                   | 703                                                                               |                                                                                   |                                                                                    | 612                                                                                 |                                                                                     |                                                                                     | 561                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 7.5                                                                               |                                                                                   |                                                                                   | 13.7                                                                              |                                                                                   |                                                                                    | 11.9                                                                                |                                                                                     |                                                                                     | 10.9                                                                                |                                                                                     |
| Peak Hour Factor           | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.87                                                                               | 0.87                                                                                | 0.87                                                                                | 0.74                                                                                | 0.74                                                                                | 0.74                                                                                |
| Heavy Vehicles (%)         | 3%                                                                                | 3%                                                                                | 3%                                                                                | 4%                                                                                | 4%                                                                                | 4%                                                                                | 3%                                                                                 | 3%                                                                                  | 3%                                                                                  | 5%                                                                                  | 5%                                                                                  | 5%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 67                                                                                | 764                                                                               | 0                                                                                 | 344                                                                               | 518                                                                               | 0                                                                                 | 43                                                                                 | 105                                                                                 | 231                                                                                 | 153                                                                                 | 219                                                                                 | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                 | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                               | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                    | 12                                                                                  |                                                                                     |                                                                                     | 12                                                                                  |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                    | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                    | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                 |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                              | NA                                                                                  | pm+ov                                                                               | pm+pt                                                                               | NA                                                                                  |                                                                                     |
| Protected Phases           | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 3                                                                                  | 8                                                                                   | 1                                                                                   | 7                                                                                   | 4                                                                                   |                                                                                     |
| Permitted Phases           | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                  |                                                                                     | 8                                                                                   | 4                                                                                   |                                                                                     |                                                                                     |
| Detector Phase             | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 3                                                                                  | 8                                                                                   | 1                                                                                   | 7                                                                                   | 4                                                                                   |                                                                                     |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 4.0                                                                               | 12.0                                                                              |                                                                                   | 8.0                                                                               | 12.0                                                                              |                                                                                   | 4.0                                                                                | 8.0                                                                                 | 8.0                                                                                 | 4.0                                                                                 | 8.0                                                                                 |                                                                                     |
| Minimum Split (s)          | 9.5                                                                               | 18.0                                                                              |                                                                                   | 13.5                                                                              | 18.0                                                                              |                                                                                   | 10.0                                                                               | 14.0                                                                                | 13.5                                                                                | 9.5                                                                                 | 14.0                                                                                |                                                                                     |
| Total Split (s)            | 14.0                                                                              | 40.0                                                                              |                                                                                   | 35.0                                                                              | 61.0                                                                              |                                                                                   | 14.0                                                                               | 19.0                                                                                | 35.0                                                                                | 16.0                                                                                | 21.0                                                                                |                                                                                     |
| Total Split (%)            | 12.7%                                                                             | 36.4%                                                                             |                                                                                   | 31.8%                                                                             | 55.5%                                                                             |                                                                                   | 12.7%                                                                              | 17.3%                                                                               | 31.8%                                                                               | 14.5%                                                                               | 19.1%                                                                               |                                                                                     |
| Maximum Green (s)          | 8.5                                                                               | 34.0                                                                              |                                                                                   | 29.5                                                                              | 55.0                                                                              |                                                                                   | 8.0                                                                                | 13.0                                                                                | 29.5                                                                                | 10.5                                                                                | 15.0                                                                                |                                                                                     |
| Yellow Time (s)            | 3.5                                                                               | 3.5                                                                               |                                                                                   | 3.5                                                                               | 3.5                                                                               |                                                                                   | 3.5                                                                                | 3.5                                                                                 | 3.5                                                                                 | 3.0                                                                                 | 3.5                                                                                 |                                                                                     |
| All-Red Time (s)           | 2.0                                                                               | 2.5                                                                               |                                                                                   | 2.0                                                                               | 2.5                                                                               |                                                                                   | 2.5                                                                                | 2.5                                                                                 | 2.0                                                                                 | 2.5                                                                                 | 2.5                                                                                 |                                                                                     |
| Lost Time Adjust (s)       | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                                | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)        | 5.5                                                                               | 6.0                                                                               |                                                                                   | 5.5                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                                | 6.0                                                                                 | 5.5                                                                                 | 5.5                                                                                 | 6.0                                                                                 |                                                                                     |
| Lead/Lag                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                               | Lag                                                                                 | Lead                                                                                | Lead                                                                                | Lag                                                                                 |                                                                                     |
| Lead-Lag Optimize?         | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                                | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 |                                                                                     |
| Vehicle Extension (s)      | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                                | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |
| Recall Mode                | None                                                                              | C-Min                                                                             |                                                                                   | None                                                                              | C-Min                                                                             |                                                                                   | None                                                                               | None                                                                                | None                                                                                | None                                                                                | None                                                                                |                                                                                     |
| Act Effect Green (s)       | 51.2                                                                              | 43.5                                                                              |                                                                                   | 69.9                                                                              | 58.9                                                                              |                                                                                   | 18.3                                                                               | 11.0                                                                                | 37.4                                                                                | 28.3                                                                                | 20.2                                                                                |                                                                                     |
| Actuated g/C Ratio         | 0.47                                                                              | 0.40                                                                              |                                                                                   | 0.64                                                                              | 0.54                                                                              |                                                                                   | 0.17                                                                               | 0.10                                                                                | 0.34                                                                                | 0.26                                                                                | 0.18                                                                                |                                                                                     |
| v/c Ratio                  | 0.15                                                                              | 0.56                                                                              |                                                                                   | 0.69                                                                              | 0.28                                                                              |                                                                                   | 0.19                                                                               | 0.57                                                                                | 0.38                                                                                | 0.48                                                                                | 0.35                                                                                |                                                                                     |
| Control Delay              | 11.5                                                                              | 29.2                                                                              |                                                                                   | 20.9                                                                              | 7.3                                                                               |                                                                                   | 32.4                                                                               | 59.1                                                                                | 14.9                                                                                | 37.9                                                                                | 37.7                                                                                |                                                                                     |



# Lanes, Volumes, Timings

## 1: Route 11 & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Queue Delay             | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Delay             | 11.5                                                                              | 29.2                                                                              |                                                                                   | 20.9                                                                              | 7.3                                                                               |                                                                                   | 32.4                                                                              | 59.1                                                                                | 14.9                                                                                | 37.9                                                                                | 37.7                                                                                |                                                                                     |
| LOS                     | B                                                                                 | C                                                                                 |                                                                                   | C                                                                                 | A                                                                                 |                                                                                   | C                                                                                 | E                                                                                   | B                                                                                   | D                                                                                   | D                                                                                   |                                                                                     |
| Approach Delay          |                                                                                   | 27.7                                                                              |                                                                                   |                                                                                   | 12.7                                                                              |                                                                                   |                                                                                   | 29.1                                                                                |                                                                                     |                                                                                     | 37.8                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | B                                                                                 |                                                                                   |                                                                                   | C                                                                                   |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 18                                                                                | 221                                                                               |                                                                                   | 81                                                                                | 27                                                                                |                                                                                   | 22                                                                                | 72                                                                                  | 63                                                                                  | 85                                                                                  | 65                                                                                  |                                                                                     |
| Queue Length 95th (ft)  | 33                                                                                | 307                                                                               |                                                                                   | 102                                                                               | 98                                                                                |                                                                                   | 50                                                                                | 122                                                                                 | 102                                                                                 | 117                                                                                 | 84                                                                                  |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 305                                                                               |                                                                                   |                                                                                   | 623                                                                               |                                                                                   |                                                                                   | 532                                                                                 |                                                                                     |                                                                                     | 481                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 200                                                                               |                                                                                   |                                                                                   | 495                                                                               |                                                                                   |                                                                                   | 175                                                                               |                                                                                     |                                                                                     | 350                                                                                 |                                                                                     |                                                                                     |
| Base Capacity (vph)     | 475                                                                               | 1374                                                                              |                                                                                   | 607                                                                               | 1841                                                                              |                                                                                   | 242                                                                               | 218                                                                                 | 724                                                                                 | 320                                                                                 | 632                                                                                 |                                                                                     |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       | 0.14                                                                              | 0.56                                                                              |                                                                                   | 0.57                                                                              | 0.28                                                                              |                                                                                   | 0.18                                                                              | 0.48                                                                                | 0.32                                                                                | 0.48                                                                                | 0.35                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 11 (10%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.69

Intersection Signal Delay: 24.2

Intersection LOS: C

Intersection Capacity Utilization 68.6%

ICU Level of Service C

Analysis Period (min) 15

### Splits and Phases: 1: Route 11 & Route 31

|                                                                                        |                                                                                            |                                                                                          |                                                                                          |
|----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
|  Ø1 |  Ø2 (R) |  Ø3 |  Ø4 |
| 35 s                                                                                   | 40 s                                                                                       | 14 s                                                                                     | 21 s                                                                                     |
|  Ø5 |  Ø6 (R) |  Ø7 |  Ø8 |
| 14 s                                                                                   | 61 s                                                                                       | 16 s                                                                                     | 19 s                                                                                     |



# Lanes, Volumes, Timings

## 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

07/05/2022

|                            |  |                                                                                    |  |  |                                                                                    |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                                                                                                                 | EBR                                                                               | WBL                                                                               | WBT                                                                                                                                                                 | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |                                                                                   |   |                                                                                   |  |   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |  |  |
| Traffic Volume (vph)       | 0                                                                                 | 579                                                                                                                                                                 | 358                                                                               | 663                                                                               | 651                                                                                                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 168                                                                                 | 1                                                                                   | 150                                                                                 |
| Future Volume (vph)        | 0                                                                                 | 579                                                                                                                                                                 | 358                                                                               | 663                                                                               | 651                                                                                                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 168                                                                                 | 1                                                                                   | 150                                                                                 |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                                                                                                                | 1900                                                                              | 1900                                                                              | 1900                                                                                                                                                                | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 0                                                                                 |                                                                                                                                                                     | 0                                                                                 | 150                                                                               |                                                                                                                                                                     | 0                                                                                 | 0                                                                                 |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     | 125                                                                                 |
| Storage Lanes              | 0                                                                                 |                                                                                                                                                                     | 0                                                                                 | 1                                                                                 |                                                                                                                                                                     | 0                                                                                 | 0                                                                                 |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     | 1                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                                                                                                     |                                                                                   | 75                                                                                |                                                                                                                                                                     |                                                                                   | 75                                                                                |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 0                                                                                 | 3343                                                                                                                                                                | 0                                                                                 | 1787                                                                              | 3574                                                                                                                                                                | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 1775                                                                                | 1583                                                                                |
| Flt Permitted              |                                                                                   |                                                                                                                                                                     |                                                                                   | 0.095                                                                             |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 0.953                                                                               |                                                                                     |
| Satd. Flow (perm)          | 0                                                                                 | 3343                                                                                                                                                                | 0                                                                                 | 179                                                                               | 3574                                                                                                                                                                | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 1775                                                                                | 1583                                                                                |
| Right Turn on Red          |                                                                                   |                                                                                                                                                                     | Yes                                                                               |                                                                                   |                                                                                                                                                                     | Yes                                                                               |                                                                                   |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   | 120                                                                                                                                                                 |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 165                                                                                 |
| Link Speed (mph)           |                                                                                   | 35                                                                                                                                                                  |                                                                                   |                                                                                   | 35                                                                                                                                                                  |                                                                                   |                                                                                   | 40                                                                                  |                                                                                     |                                                                                     | 40                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 703                                                                                                                                                                 |                                                                                   |                                                                                   | 360                                                                                                                                                                 |                                                                                   |                                                                                   | 622                                                                                 |                                                                                     |                                                                                     | 505                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 13.7                                                                                                                                                                |                                                                                   |                                                                                   | 7.0                                                                                                                                                                 |                                                                                   |                                                                                   | 10.6                                                                                |                                                                                     |                                                                                     | 8.6                                                                                 |                                                                                     |
| Confl. Peds. (#/hr)        |                                                                                   |                                                                                                                                                                     | 1                                                                                 | 1                                                                                 |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Peak Hour Factor           | 0.88                                                                              | 0.88                                                                                                                                                                | 0.88                                                                              | 0.94                                                                              | 0.94                                                                                                                                                                | 0.94                                                                              | 0.90                                                                              | 0.90                                                                                | 0.90                                                                                | 0.91                                                                                | 0.91                                                                                | 0.91                                                                                |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                                                                                                  | 1%                                                                                | 1%                                                                                | 1%                                                                                                                                                                  | 1%                                                                                | 1%                                                                                | 1%                                                                                  | 1%                                                                                  | 2%                                                                                  | 2%                                                                                  | 2%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 0                                                                                 | 1065                                                                                                                                                                | 0                                                                                 | 705                                                                               | 693                                                                                                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 186                                                                                 | 165                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                                                                                                  | No                                                                                | No                                                                                | No                                                                                                                                                                  | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                                                                                                                | Right                                                                             | Left                                                                              | Left                                                                                                                                                                | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                                                                                                  |                                                                                   |                                                                                   | 12                                                                                                                                                                  |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                                                                                                   |                                                                                   |                                                                                   | 0                                                                                                                                                                   |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                                                                                                  |                                                                                   |                                                                                   | 16                                                                                                                                                                  |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                                                                                                                | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                                                                                                | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                                                                                                     | 9                                                                                 | 15                                                                                |                                                                                                                                                                     | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  |                                                                                   | NA                                                                                                                                                                  |                                                                                   | pm+pt                                                                             | NA                                                                                                                                                                  |                                                                                   |                                                                                   |                                                                                     |                                                                                     | Perm                                                                                | NA                                                                                  | Perm                                                                                |
| Protected Phases           |                                                                                   | 2                                                                                                                                                                   |                                                                                   | 1 3                                                                               | 6                                                                                                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |
| Permitted Phases           |                                                                                   |                                                                                                                                                                     |                                                                                   | 6                                                                                 |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     | 4                                                                                   |
| Detector Phase             |                                                                                   | 2                                                                                                                                                                   |                                                                                   | 1 3                                                                               | 6                                                                                                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 4                                                                                   | 4                                                                                   | 4                                                                                   |
| Switch Phase               |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        |                                                                                   | 12.0                                                                                                                                                                |                                                                                   |                                                                                   | 12.0                                                                                                                                                                |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 |
| Minimum Split (s)          |                                                                                   | 17.0                                                                                                                                                                |                                                                                   |                                                                                   | 17.0                                                                                                                                                                |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 9.0                                                                                 | 9.0                                                                                 | 9.0                                                                                 |
| Total Split (s)            |                                                                                   | 36.0                                                                                                                                                                |                                                                                   |                                                                                   | 91.0                                                                                                                                                                |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 19.0                                                                                | 19.0                                                                                | 19.0                                                                                |
| Total Split (%)            |                                                                                   | 32.7%                                                                                                                                                               |                                                                                   |                                                                                   | 82.7%                                                                                                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 17.3%                                                                               | 17.3%                                                                               | 17.3%                                                                               |
| Maximum Green (s)          |                                                                                   | 31.0                                                                                                                                                                |                                                                                   |                                                                                   | 86.0                                                                                                                                                                |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 14.0                                                                                | 14.0                                                                                | 14.0                                                                                |
| Yellow Time (s)            |                                                                                   | 3.5                                                                                                                                                                 |                                                                                   |                                                                                   | 3.5                                                                                                                                                                 |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 |
| All-Red Time (s)           |                                                                                   | 1.5                                                                                                                                                                 |                                                                                   |                                                                                   | 1.5                                                                                                                                                                 |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 1.0                                                                                 | 1.0                                                                                 | 1.0                                                                                 |
| Lost Time Adjust (s)       |                                                                                   | 0.0                                                                                                                                                                 |                                                                                   |                                                                                   | 0.0                                                                                                                                                                 |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |
| Total Lost Time (s)        |                                                                                   | 5.0                                                                                                                                                                 |                                                                                   |                                                                                   | 5.0                                                                                                                                                                 |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |
| Lead/Lag                   |                                                                                   | Lag                                                                                                                                                                 |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?         |                                                                                   | Yes                                                                                                                                                                 |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Vehicle Extension (s)      |                                                                                   | 3.0                                                                                                                                                                 |                                                                                   |                                                                                   | 3.0                                                                                                                                                                 |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |
| Recall Mode                |                                                                                   | C-Min                                                                                                                                                               |                                                                                   |                                                                                   | C-Min                                                                                                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     | None                                                                                | None                                                                                | None                                                                                |
| Act Effect Green (s)       |                                                                                   | 32.4                                                                                                                                                                |                                                                                   | 86.0                                                                              | 86.0                                                                                                                                                                |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 14.0                                                                                | 14.0                                                                                |
| Actuated g/C Ratio         |                                                                                   | 0.29                                                                                                                                                                |                                                                                   | 0.78                                                                              | 0.78                                                                                                                                                                |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 0.13                                                                                | 0.13                                                                                |
| v/c Ratio                  |                                                                                   | 1.00                                                                                                                                                                |                                                                                   | 0.91                                                                              | 0.25                                                                                                                                                                |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 0.83                                                                                | 0.48                                                                                |



# Lanes, Volumes, Timings

## 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

07/05/2022

| Lane Group                 | Ø1   | Ø3   |
|----------------------------|------|------|
| Lane Configurations        |      |      |
| Traffic Volume (vph)       |      |      |
| Future Volume (vph)        |      |      |
| Ideal Flow (vphpl)         |      |      |
| Storage Length (ft)        |      |      |
| Storage Lanes              |      |      |
| Taper Length (ft)          |      |      |
| Satd. Flow (prot)          |      |      |
| Flt Permitted              |      |      |
| Satd. Flow (perm)          |      |      |
| Right Turn on Red          |      |      |
| Satd. Flow (RTOR)          |      |      |
| Link Speed (mph)           |      |      |
| Link Distance (ft)         |      |      |
| Travel Time (s)            |      |      |
| Confl. Peds. (#/hr)        |      |      |
| Peak Hour Factor           |      |      |
| Heavy Vehicles (%)         |      |      |
| Shared Lane Traffic (%)    |      |      |
| Lane Group Flow (vph)      |      |      |
| Enter Blocked Intersection |      |      |
| Lane Alignment             |      |      |
| Median Width(ft)           |      |      |
| Link Offset(ft)            |      |      |
| Crosswalk Width(ft)        |      |      |
| Two way Left Turn Lane     |      |      |
| Headway Factor             |      |      |
| Turning Speed (mph)        |      |      |
| Turn Type                  |      |      |
| Protected Phases           | 1    | 3    |
| Permitted Phases           |      |      |
| Detector Phase             |      |      |
| Switch Phase               |      |      |
| Minimum Initial (s)        | 4.0  | 4.0  |
| Minimum Split (s)          | 9.0  | 9.0  |
| Total Split (s)            | 19.0 | 36.0 |
| Total Split (%)            | 17%  | 33%  |
| Maximum Green (s)          | 14.0 | 31.0 |
| Yellow Time (s)            | 3.5  | 3.5  |
| All-Red Time (s)           | 1.5  | 1.5  |
| Lost Time Adjust (s)       |      |      |
| Total Lost Time (s)        |      |      |
| Lead/Lag                   | Lead |      |
| Lead-Lag Optimize?         | Yes  |      |
| Vehicle Extension (s)      | 3.0  | 3.0  |
| Recall Mode                | None | None |
| Act Effect Green (s)       |      |      |
| Actuated g/C Ratio         |      |      |
| v/c Ratio                  |      |      |



# Lanes, Volumes, Timings

## 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Control Delay           |                                                                                   | 64.9                                                                              |                                                                                   | 38.9                                                                              | 4.4                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 76.0                                                                                | 11.9                                                                                |
| Queue Delay             |                                                                                   | 0.0                                                                               |                                                                                   | 51.5                                                                              | 0.5                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |
| Total Delay             |                                                                                   | 64.9                                                                              |                                                                                   | 90.3                                                                              | 4.9                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 76.0                                                                                | 11.9                                                                                |
| LOS                     |                                                                                   | E                                                                                 |                                                                                   | F                                                                                 | A                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | E                                                                                   | B                                                                                   |
| Approach Delay          |                                                                                   | 64.9                                                                              |                                                                                   |                                                                                   | 48.0                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 45.8                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | E                                                                                 |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Queue Length 50th (ft)  |                                                                                   | ~260                                                                              |                                                                                   | 380                                                                               | 154                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 130                                                                                 | 0                                                                                   |
| Queue Length 95th (ft)  |                                                                                   | #507                                                                              |                                                                                   | #550                                                                              | 20                                                                                |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | #250                                                                                | 61                                                                                  |
| Internal Link Dist (ft) |                                                                                   | 623                                                                               |                                                                                   |                                                                                   | 280                                                                               |                                                                                   |                                                                                    | 542                                                                                 |                                                                                     |                                                                                     | 425                                                                                 |                                                                                     |
| Turn Bay Length (ft)    |                                                                                   |                                                                                   |                                                                                   | 150                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 125                                                                                 |
| Base Capacity (vph)     |                                                                                   | 1070                                                                              |                                                                                   | 823                                                                               | 2806                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 231                                                                                 | 349                                                                                 |
| Starvation Cap Reductn  |                                                                                   | 0                                                                                 |                                                                                   | 346                                                                               | 1561                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 0                                                                                   | 0                                                                                   |
| Spillback Cap Reductn   |                                                                                   | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 0                                                                                   | 0                                                                                   |
| Storage Cap Reductn     |                                                                                   | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 0                                                                                   | 0                                                                                   |
| Reduced v/c Ratio       |                                                                                   | 1.00                                                                              |                                                                                   | 1.48                                                                              | 0.56                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 0.81                                                                                | 0.47                                                                                |

### Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 97 (88%), Referenced to phase 2:EBT and 6:WBTL, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.00

Intersection Signal Delay: 54.1

Intersection LOS: D

Intersection Capacity Utilization 86.1%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

### Splits and Phases: 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

|                                                                                            |                                                                                            |                                                                                        |                                                                                          |
|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
|  Ø1     |  Ø2 (R) |  Ø3 |  Ø4 |
| 19 s                                                                                       | 36 s                                                                                       | 36 s                                                                                   | 19 s                                                                                     |
|  Ø6 (R) |                                                                                            |                                                                                        |                                                                                          |
| 91 s                                                                                       |                                                                                            |                                                                                        |                                                                                          |



## Lanes, Volumes, Timings

### 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

07/05/2022

---

| Lane Group | Ø1 | Ø3 |
|------------|----|----|
|------------|----|----|

---

Control Delay

Queue Delay

Total Delay

LOS

Approach Delay

Approach LOS

Queue Length 50th (ft)

Queue Length 95th (ft)

Internal Link Dist (ft)

Turn Bay Length (ft)

Base Capacity (vph)

Starvation Cap Reductn

Spillback Cap Reductn

Storage Cap Reductn

Reduced v/c Ratio

Intersection Summary

---



# Lanes, Volumes, Timings

## 3: I-81 NB Offramp/Pardee Road & Route 31

07/05/2022

|                            |  |                                                                                    |  |  |                                                                                    |  |   |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                                                                                                                 | EBR                                                                               | WBL                                                                               | WBT                                                                                                                                                                 | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |  |   |                                                                                   |                                                                                   |   |                                                                                   |  |  |  |                                                                                     |                                                                                     |  |
| Traffic Volume (vph)       | 90                                                                                | 657                                                                                                                                                                 | 0                                                                                 | 0                                                                                 | 1024                                                                                                                                                                | 123                                                                               | 151                                                                                | 61                                                                                  | 350                                                                                 | 0                                                                                   | 0                                                                                   | 139                                                                                 |
| Future Volume (vph)        | 90                                                                                | 657                                                                                                                                                                 | 0                                                                                 | 0                                                                                 | 1024                                                                                                                                                                | 123                                                                               | 151                                                                                | 61                                                                                  | 350                                                                                 | 0                                                                                   | 0                                                                                   | 139                                                                                 |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                                                                                                                | 1900                                                                              | 1900                                                                              | 1900                                                                                                                                                                | 1900                                                                              | 1900                                                                               | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 85                                                                                |                                                                                                                                                                     | 0                                                                                 | 0                                                                                 |                                                                                                                                                                     | 0                                                                                 | 310                                                                                |                                                                                     | 100                                                                                 | 0                                                                                   |                                                                                     | 0                                                                                   |
| Storage Lanes              | 1                                                                                 |                                                                                                                                                                     | 0                                                                                 | 0                                                                                 |                                                                                                                                                                     | 0                                                                                 | 1                                                                                  |                                                                                     | 1                                                                                   | 0                                                                                   |                                                                                     | 1                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                                                                                                     |                                                                                   | 75                                                                                |                                                                                                                                                                     |                                                                                   | 75                                                                                 |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 1736                                                                              | 3471                                                                                                                                                                | 0                                                                                 | 0                                                                                 | 3441                                                                                                                                                                | 0                                                                                 | 1719                                                                               | 1810                                                                                | 1538                                                                                | 0                                                                                   | 0                                                                                   | 1536                                                                                |
| Flt Permitted              | 0.135                                                                             |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   | 0.950                                                                              |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Satd. Flow (perm)          | 247                                                                               | 3471                                                                                                                                                                | 0                                                                                 | 0                                                                                 | 3441                                                                                                                                                                | 0                                                                                 | 1717                                                                               | 1810                                                                                | 1518                                                                                | 0                                                                                   | 0                                                                                   | 1536                                                                                |
| Right Turn on Red          |                                                                                   |                                                                                                                                                                     | Yes                                                                               |                                                                                   |                                                                                                                                                                     | Yes                                                                               |                                                                                    |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                   | 14                                                                                                                                                                  |                                                                                   |                                                                                    |                                                                                     | 211                                                                                 |                                                                                     |                                                                                     | 201                                                                                 |
| Link Speed (mph)           |                                                                                   | 35                                                                                                                                                                  |                                                                                   |                                                                                   | 35                                                                                                                                                                  |                                                                                   |                                                                                    | 40                                                                                  |                                                                                     |                                                                                     | 55                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 360                                                                                                                                                                 |                                                                                   |                                                                                   | 1082                                                                                                                                                                |                                                                                   |                                                                                    | 639                                                                                 |                                                                                     |                                                                                     | 500                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 7.0                                                                                                                                                                 |                                                                                   |                                                                                   | 21.1                                                                                                                                                                |                                                                                   |                                                                                    | 10.9                                                                                |                                                                                     |                                                                                     | 6.2                                                                                 |                                                                                     |
| Confl. Peds. (#/hr)        | 1                                                                                 |                                                                                                                                                                     | 1                                                                                 | 1                                                                                 |                                                                                                                                                                     | 1                                                                                 | 1                                                                                  |                                                                                     | 1                                                                                   | 1                                                                                   |                                                                                     | 1                                                                                   |
| Peak Hour Factor           | 0.83                                                                              | 0.83                                                                                                                                                                | 0.83                                                                              | 0.90                                                                              | 0.90                                                                                                                                                                | 0.90                                                                              | 0.89                                                                               | 0.89                                                                                | 0.89                                                                                | 0.84                                                                                | 0.84                                                                                | 0.84                                                                                |
| Heavy Vehicles (%)         | 4%                                                                                | 4%                                                                                                                                                                  | 4%                                                                                | 3%                                                                                | 3%                                                                                                                                                                  | 3%                                                                                | 5%                                                                                 | 5%                                                                                  | 5%                                                                                  | 7%                                                                                  | 7%                                                                                  | 7%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 108                                                                               | 792                                                                                                                                                                 | 0                                                                                 | 0                                                                                 | 1275                                                                                                                                                                | 0                                                                                 | 170                                                                                | 69                                                                                  | 393                                                                                 | 0                                                                                   | 0                                                                                   | 165                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                                                                                                  | No                                                                                | No                                                                                | No                                                                                                                                                                  | No                                                                                | No                                                                                 | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                                                                                                                | Right                                                                             | Left                                                                              | Left                                                                                                                                                                | Right                                                                             | Left                                                                               | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                                                                                                  |                                                                                   |                                                                                   | 12                                                                                                                                                                  |                                                                                   |                                                                                    | 12                                                                                  |                                                                                     |                                                                                     | 12                                                                                  |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                                                                                                   |                                                                                   |                                                                                   | 0                                                                                                                                                                   |                                                                                   |                                                                                    | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                                                                                                  |                                                                                   |                                                                                   | 16                                                                                                                                                                  |                                                                                   |                                                                                    | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                                                                                                                | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                                                                                                | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                                                                                                     | 9                                                                                 | 15                                                                                |                                                                                                                                                                     | 9                                                                                 | 15                                                                                 |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | pm+pt                                                                             | NA                                                                                                                                                                  |                                                                                   |                                                                                   | NA                                                                                                                                                                  |                                                                                   | Perm                                                                               | NA                                                                                  | Perm                                                                                |                                                                                     |                                                                                     | Over                                                                                |
| Protected Phases           | 5                                                                                 | 2                                                                                                                                                                   |                                                                                   |                                                                                   | 6                                                                                                                                                                   |                                                                                   |                                                                                    | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     | 5                                                                                   |
| Permitted Phases           | 2                                                                                 |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   | 8                                                                                  |                                                                                     | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Detector Phase             | 5                                                                                 | 2                                                                                                                                                                   |                                                                                   |                                                                                   | 6                                                                                                                                                                   |                                                                                   | 8                                                                                  | 8                                                                                   | 8                                                                                   |                                                                                     |                                                                                     | 5                                                                                   |
| Switch Phase               |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 4.0                                                                               | 12.0                                                                                                                                                                |                                                                                   |                                                                                   | 12.0                                                                                                                                                                |                                                                                   | 6.0                                                                                | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |                                                                                     | 4.0                                                                                 |
| Minimum Split (s)          | 9.0                                                                               | 17.5                                                                                                                                                                |                                                                                   |                                                                                   | 17.5                                                                                                                                                                |                                                                                   | 12.0                                                                               | 12.0                                                                                | 12.0                                                                                |                                                                                     |                                                                                     | 9.0                                                                                 |
| Total Split (s)            | 24.0                                                                              | 75.0                                                                                                                                                                |                                                                                   |                                                                                   | 51.0                                                                                                                                                                |                                                                                   | 35.0                                                                               | 35.0                                                                                | 35.0                                                                                |                                                                                     |                                                                                     | 24.0                                                                                |
| Total Split (%)            | 21.8%                                                                             | 68.2%                                                                                                                                                               |                                                                                   |                                                                                   | 46.4%                                                                                                                                                               |                                                                                   | 31.8%                                                                              | 31.8%                                                                               | 31.8%                                                                               |                                                                                     |                                                                                     | 21.8%                                                                               |
| Maximum Green (s)          | 19.0                                                                              | 69.5                                                                                                                                                                |                                                                                   |                                                                                   | 45.5                                                                                                                                                                |                                                                                   | 29.0                                                                               | 29.0                                                                                | 29.0                                                                                |                                                                                     |                                                                                     | 19.0                                                                                |
| Yellow Time (s)            | 3.0                                                                               | 3.5                                                                                                                                                                 |                                                                                   |                                                                                   | 3.5                                                                                                                                                                 |                                                                                   | 4.0                                                                                | 4.0                                                                                 | 4.0                                                                                 |                                                                                     |                                                                                     | 3.0                                                                                 |
| All-Red Time (s)           | 2.0                                                                               | 2.0                                                                                                                                                                 |                                                                                   |                                                                                   | 2.0                                                                                                                                                                 |                                                                                   | 2.0                                                                                | 2.0                                                                                 | 2.0                                                                                 |                                                                                     |                                                                                     | 2.0                                                                                 |
| Lost Time Adjust (s)       | 0.0                                                                               | 0.0                                                                                                                                                                 |                                                                                   |                                                                                   | 0.0                                                                                                                                                                 |                                                                                   | 0.0                                                                                | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |                                                                                     | 0.0                                                                                 |
| Total Lost Time (s)        | 5.0                                                                               | 5.5                                                                                                                                                                 |                                                                                   |                                                                                   | 5.5                                                                                                                                                                 |                                                                                   | 6.0                                                                                | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |                                                                                     | 5.0                                                                                 |
| Lead/Lag                   | Lead                                                                              |                                                                                                                                                                     |                                                                                   |                                                                                   | Lag                                                                                                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     | Lead                                                                                |
| Lead-Lag Optimize?         | Yes                                                                               |                                                                                                                                                                     |                                                                                   |                                                                                   | Yes                                                                                                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     | Yes                                                                                 |
| Vehicle Extension (s)      | 3.0                                                                               | 3.0                                                                                                                                                                 |                                                                                   |                                                                                   | 3.0                                                                                                                                                                 |                                                                                   | 3.0                                                                                | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |                                                                                     | 3.0                                                                                 |
| Recall Mode                | None                                                                              | C-Min                                                                                                                                                               |                                                                                   |                                                                                   | C-Min                                                                                                                                                               |                                                                                   | None                                                                               | None                                                                                | None                                                                                |                                                                                     |                                                                                     | None                                                                                |
| Act Effct Green (s)        | 78.4                                                                              | 77.9                                                                                                                                                                |                                                                                   |                                                                                   | 64.5                                                                                                                                                                |                                                                                   | 20.6                                                                               | 20.6                                                                                | 20.6                                                                                |                                                                                     |                                                                                     | 8.3                                                                                 |
| Actuated g/C Ratio         | 0.71                                                                              | 0.71                                                                                                                                                                |                                                                                   |                                                                                   | 0.59                                                                                                                                                                |                                                                                   | 0.19                                                                               | 0.19                                                                                | 0.19                                                                                |                                                                                     |                                                                                     | 0.08                                                                                |
| v/c Ratio                  | 0.38                                                                              | 0.32                                                                                                                                                                |                                                                                   |                                                                                   | 0.63                                                                                                                                                                |                                                                                   | 0.53                                                                               | 0.20                                                                                | 0.86                                                                                |                                                                                     |                                                                                     | 0.55                                                                                |



# Lanes, Volumes, Timings

## 3: I-81 NB Offramp/Pardee Road & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Control Delay           | 17.1                                                                              | 13.9                                                                              |                                                                                   |                                                                                   | 18.3                                                                              |                                                                                   | 44.7                                                                              | 36.3                                                                                | 37.9                                                                                |                                                                                     |                                                                                     | 10.3                                                                                |
| Queue Delay             | 0.0                                                                               | 0.7                                                                               |                                                                                   |                                                                                   | 0.3                                                                               |                                                                                   | 1.0                                                                               | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |                                                                                     | 0.2                                                                                 |
| Total Delay             | 17.1                                                                              | 14.6                                                                              |                                                                                   |                                                                                   | 18.6                                                                              |                                                                                   | 45.7                                                                              | 36.3                                                                                | 37.9                                                                                |                                                                                     |                                                                                     | 10.5                                                                                |
| LOS                     | B                                                                                 | B                                                                                 |                                                                                   |                                                                                   | B                                                                                 |                                                                                   | D                                                                                 | D                                                                                   | D                                                                                   |                                                                                     |                                                                                     | B                                                                                   |
| Approach Delay          |                                                                                   | 14.9                                                                              |                                                                                   |                                                                                   | 18.6                                                                              |                                                                                   |                                                                                   | 39.8                                                                                |                                                                                     |                                                                                     | 10.5                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | B                                                                                 |                                                                                   |                                                                                   | B                                                                                 |                                                                                   |                                                                                   | D                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 43                                                                                | 171                                                                               |                                                                                   |                                                                                   | 292                                                                               |                                                                                   | 108                                                                               | 41                                                                                  | 129                                                                                 |                                                                                     |                                                                                     | 0                                                                                   |
| Queue Length 95th (ft)  | m40                                                                               | m136                                                                              |                                                                                   |                                                                                   | 466                                                                               |                                                                                   | 160                                                                               | 74                                                                                  | 227                                                                                 |                                                                                     |                                                                                     | 26                                                                                  |
| Internal Link Dist (ft) |                                                                                   | 280                                                                               |                                                                                   |                                                                                   | 1002                                                                              |                                                                                   |                                                                                   | 559                                                                                 |                                                                                     |                                                                                     | 420                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 85                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 310                                                                               |                                                                                     | 100                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| Base Capacity (vph)     | 433                                                                               | 2457                                                                              |                                                                                   |                                                                                   | 2024                                                                              |                                                                                   | 452                                                                               | 477                                                                                 | 555                                                                                 |                                                                                     |                                                                                     | 431                                                                                 |
| Starvation Cap Reductn  | 0                                                                                 | 1248                                                                              |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 240                                                                               |                                                                                   | 121                                                                               | 0                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 28                                                                                  |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |
| Reduced v/c Ratio       | 0.25                                                                              | 0.66                                                                              |                                                                                   |                                                                                   | 0.71                                                                              |                                                                                   | 0.51                                                                              | 0.14                                                                                | 0.71                                                                                |                                                                                     |                                                                                     | 0.41                                                                                |

### Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 87 (79%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 21.6

Intersection LOS: C

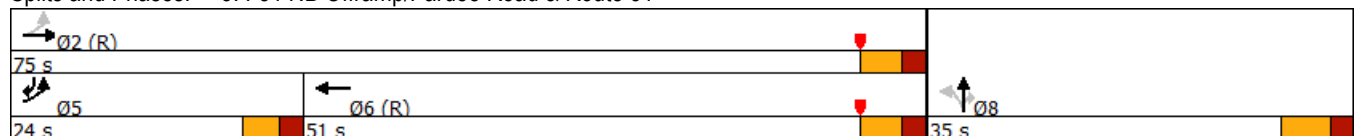
Intersection Capacity Utilization 63.1%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: I-81 NB Offramp/Pardee Road & Route 31





# Lanes, Volumes, Timings

## 4: Route 31 & Lakeshore Road

07/05/2022

|                            |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | WBT                                                                               | WBR                                                                               | SBL                                                                               | SBR                                                                               |
| Lane Configurations        |  |  |  |                                                                                   |  |                                                                                   |
| Traffic Volume (vph)       | 156                                                                               | 851                                                                               | 585                                                                               | 1                                                                                 | 0                                                                                 | 562                                                                               |
| Future Volume (vph)        | 156                                                                               | 851                                                                               | 585                                                                               | 1                                                                                 | 0                                                                                 | 562                                                                               |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Storage Length (ft)        | 225                                                                               |                                                                                   |                                                                                   | 0                                                                                 | 0                                                                                 | 0                                                                                 |
| Storage Lanes              | 1                                                                                 |                                                                                   |                                                                                   | 0                                                                                 | 1                                                                                 | 0                                                                                 |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |
| Satd. Flow (prot)          | 1770                                                                              | 3539                                                                              | 1845                                                                              | 0                                                                                 | 1627                                                                              | 0                                                                                 |
| Flt Permitted              | 0.950                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Satd. Flow (perm)          | 1770                                                                              | 3539                                                                              | 1845                                                                              | 0                                                                                 | 1627                                                                              | 0                                                                                 |
| Link Speed (mph)           |                                                                                   | 35                                                                                | 35                                                                                |                                                                                   | 35                                                                                |                                                                                   |
| Link Distance (ft)         |                                                                                   | 1082                                                                              | 959                                                                               |                                                                                   | 962                                                                               |                                                                                   |
| Travel Time (s)            |                                                                                   | 21.1                                                                              | 18.7                                                                              |                                                                                   | 18.7                                                                              |                                                                                   |
| Confl. Peds. (#/hr)        | 1                                                                                 |                                                                                   |                                                                                   | 1                                                                                 |                                                                                   | 1                                                                                 |
| Peak Hour Factor           | 0.79                                                                              | 0.79                                                                              | 0.83                                                                              | 0.83                                                                              | 0.93                                                                              | 0.93                                                                              |
| Heavy Vehicles (%)         | 2%                                                                                | 2%                                                                                | 3%                                                                                | 3%                                                                                | 1%                                                                                | 1%                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)      | 197                                                                               | 1077                                                                              | 706                                                                               | 0                                                                                 | 604                                                                               | 0                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment             | Left                                                                              | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Right                                                                             |
| Median Width(ft)           |                                                                                   | 12                                                                                | 12                                                                                |                                                                                   | 12                                                                                |                                                                                   |
| Link Offset(ft)            |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 |                                                                                   |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                | 16                                                                                |                                                                                   | 16                                                                                |                                                                                   |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (mph)        | 15                                                                                |                                                                                   |                                                                                   | 9                                                                                 | 15                                                                                | 9                                                                                 |
| Sign Control               |                                                                                   | Free                                                                              | Free                                                                              |                                                                                   | Stop                                                                              |                                                                                   |

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 84.4%

ICU Level of Service E

Analysis Period (min) 15



HCM 6th TWSC  
4: Route 31 & Lakeshore Road

07/05/2022

Intersection

| Int Delay, s/veh         | 50.9 |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Movement                 | EBL  | EBT  | WBT  | WBR  | SBL  | SBR  |
| Lane Configurations      | ↵    | ↕↕   | ↕    |      | ↵    |      |
| Traffic Vol, veh/h       | 156  | 851  | 585  | 1    | 0    | 562  |
| Future Vol, veh/h        | 156  | 851  | 585  | 1    | 0    | 562  |
| Conflicting Peds, #/hr   | 1    | 0    | 0    | 1    | 0    | 1    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | 225  | -    | -    | -    | 0    | -    |
| Veh in Median Storage, # | -    | 0    | 0    | -    | 0    | -    |
| Grade, %                 | -    | 0    | 0    | -    | 0    | -    |
| Peak Hour Factor         | 79   | 79   | 83   | 83   | 93   | 93   |
| Heavy Vehicles, %        | 2    | 2    | 3    | 3    | 1    | 1    |
| Mvmt Flow                | 197  | 1077 | 705  | 1    | 0    | 604  |

| Major/Minor          | Major1 | Major2 | Minor2          |
|----------------------|--------|--------|-----------------|
| Conflicting Flow All | 707    | 0      | 0 1640 708      |
| Stage 1              | -      | -      | - 707 -         |
| Stage 2              | -      | -      | - 933 -         |
| Critical Hdwy        | 4.13   | -      | - 6.615 6.215   |
| Critical Hdwy Stg 1  | -      | -      | - 5.415 -       |
| Critical Hdwy Stg 2  | -      | -      | - 5.815 -       |
| Follow-up Hdwy       | 2.219  | -      | - 3.5095 3.3095 |
| Pot Cap-1 Maneuver   | 889    | -      | - 101 ~ 436     |
| Stage 1              | -      | -      | - 490 -         |
| Stage 2              | -      | -      | - 346 -         |
| Platoon blocked, %   | -      | -      | -               |
| Mov Cap-1 Maneuver   | 888    | -      | - 78 ~ 435      |
| Mov Cap-2 Maneuver   | -      | -      | - 78 -          |
| Stage 1              | -      | -      | - 381 -         |
| Stage 2              | -      | -      | - 346 -         |

| Approach             | EB  | WB | SB    |
|----------------------|-----|----|-------|
| HCM Control Delay, s | 1.6 | 0  | 214.2 |
| HCM LOS              |     |    | F     |

| Minor Lane/Major Mvmt | EBL   | EBT | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-----|-------|
| Capacity (veh/h)      | 888   | -   | -   | -   | 435   |
| HCM Lane V/C Ratio    | 0.222 | -   | -   | -   | 1.389 |
| HCM Control Delay (s) | 10.2  | -   | -   | -   | 214.2 |
| HCM Lane LOS          | B     | -   | -   | -   | F     |
| HCM 95th %tile Q(veh) | 0.8   | -   | -   | -   | 29    |

Notes

~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon



# Lanes, Volumes, Timings

## 5: South Bay Road & Route 31

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (vph)       | 21                                                                                | 209                                                                               | 67                                                                                | 148                                                                               | 205                                                                               | 6                                                                                 | 61                                                                                | 87                                                                                  | 67                                                                                  | 7                                                                                   | 278                                                                                 | 60                                                                                  |
| Future Volume (vph)        | 21                                                                                | 209                                                                               | 67                                                                                | 148                                                                               | 205                                                                               | 6                                                                                 | 61                                                                                | 87                                                                                  | 67                                                                                  | 7                                                                                   | 278                                                                                 | 60                                                                                  |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Satd. Flow (prot)          | 0                                                                                 | 1746                                                                              | 0                                                                                 | 0                                                                                 | 1822                                                                              | 0                                                                                 | 0                                                                                 | 1709                                                                                | 0                                                                                   | 0                                                                                   | 1818                                                                                | 0                                                                                   |
| Flt Permitted              |                                                                                   | 0.955                                                                             |                                                                                   |                                                                                   | 0.735                                                                             |                                                                                   |                                                                                   | 0.726                                                                               |                                                                                     |                                                                                     | 0.991                                                                               |                                                                                     |
| Satd. Flow (perm)          | 0                                                                                 | 1675                                                                              | 0                                                                                 | 0                                                                                 | 1366                                                                              | 0                                                                                 | 0                                                                                 | 1259                                                                                | 0                                                                                   | 0                                                                                   | 1804                                                                                | 0                                                                                   |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   | 28                                                                                |                                                                                   |                                                                                   | 2                                                                                 |                                                                                   |                                                                                   | 35                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Link Speed (mph)           |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 55                                                                                |                                                                                   |                                                                                   | 45                                                                                  |                                                                                     |                                                                                     | 45                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 788                                                                               |                                                                                   |                                                                                   | 825                                                                               |                                                                                   |                                                                                   | 794                                                                                 |                                                                                     |                                                                                     | 652                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 11.9                                                                              |                                                                                   |                                                                                   | 10.2                                                                              |                                                                                   |                                                                                   | 12.0                                                                                |                                                                                     |                                                                                     | 9.9                                                                                 |                                                                                     |
| Peak Hour Factor           | 0.91                                                                              | 0.91                                                                              | 0.91                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.84                                                                              | 0.84                                                                                | 0.84                                                                                | 0.89                                                                                | 0.89                                                                                | 0.89                                                                                |
| Heavy Vehicles (%)         | 5%                                                                                | 5%                                                                                | 5%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 5%                                                                                | 5%                                                                                  | 5%                                                                                  | 2%                                                                                  | 2%                                                                                  | 2%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 0                                                                                 | 327                                                                               | 0                                                                                 | 0                                                                                 | 391                                                                               | 0                                                                                 | 0                                                                                 | 257                                                                                 | 0                                                                                   | 0                                                                                   | 387                                                                                 | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                  |                                                                                     | Perm                                                                                | NA                                                                                  |                                                                                     |
| Protected Phases           |                                                                                   | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                   |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |
| Permitted Phases           | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |                                                                                     |
| Detector Phase             | 2                                                                                 | 2                                                                                 |                                                                                   | 6                                                                                 | 6                                                                                 |                                                                                   | 8                                                                                 | 8                                                                                   |                                                                                     | 4                                                                                   | 4                                                                                   |                                                                                     |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 15.0                                                                              | 15.0                                                                              |                                                                                   | 15.0                                                                              | 15.0                                                                              |                                                                                   | 10.0                                                                              | 10.0                                                                                |                                                                                     | 10.0                                                                                | 10.0                                                                                |                                                                                     |
| Minimum Split (s)          | 22.8                                                                              | 22.8                                                                              |                                                                                   | 22.8                                                                              | 22.8                                                                              |                                                                                   | 16.8                                                                              | 16.8                                                                                |                                                                                     | 16.8                                                                                | 16.8                                                                                |                                                                                     |
| Total Split (s)            | 40.0                                                                              | 40.0                                                                              |                                                                                   | 40.0                                                                              | 40.0                                                                              |                                                                                   | 30.0                                                                              | 30.0                                                                                |                                                                                     | 30.0                                                                                | 30.0                                                                                |                                                                                     |
| Total Split (%)            | 57.1%                                                                             | 57.1%                                                                             |                                                                                   | 57.1%                                                                             | 57.1%                                                                             |                                                                                   | 42.9%                                                                             | 42.9%                                                                               |                                                                                     | 42.9%                                                                               | 42.9%                                                                               |                                                                                     |
| Maximum Green (s)          | 32.2                                                                              | 32.2                                                                              |                                                                                   | 32.2                                                                              | 32.2                                                                              |                                                                                   | 23.2                                                                              | 23.2                                                                                |                                                                                     | 23.2                                                                                | 23.2                                                                                |                                                                                     |
| Yellow Time (s)            | 4.9                                                                               | 4.9                                                                               |                                                                                   | 4.9                                                                               | 4.9                                                                               |                                                                                   | 4.9                                                                               | 4.9                                                                                 |                                                                                     | 4.9                                                                                 | 4.9                                                                                 |                                                                                     |
| All-Red Time (s)           | 2.9                                                                               | 2.9                                                                               |                                                                                   | 2.9                                                                               | 2.9                                                                               |                                                                                   | 1.9                                                                               | 1.9                                                                                 |                                                                                     | 1.9                                                                                 | 1.9                                                                                 |                                                                                     |
| Lost Time Adjust (s)       |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                                 |                                                                                     |                                                                                     | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)        |                                                                                   | 7.8                                                                               |                                                                                   |                                                                                   | 7.8                                                                               |                                                                                   |                                                                                   | 6.8                                                                                 |                                                                                     |                                                                                     | 6.8                                                                                 |                                                                                     |
| Lead/Lag                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?         |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Vehicle Extension (s)      | 6.0                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                               | 6.0                                                                                 |                                                                                     | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |
| Minimum Gap (s)            | 2.0                                                                               | 2.0                                                                               |                                                                                   | 2.0                                                                               | 2.0                                                                               |                                                                                   | 2.0                                                                               | 2.0                                                                                 |                                                                                     | 2.0                                                                                 | 2.0                                                                                 |                                                                                     |
| Time Before Reduce (s)     | 10.0                                                                              | 10.0                                                                              |                                                                                   | 10.0                                                                              | 10.0                                                                              |                                                                                   | 10.0                                                                              | 10.0                                                                                |                                                                                     | 10.0                                                                                | 10.0                                                                                |                                                                                     |
| Time To Reduce (s)         | 15.0                                                                              | 15.0                                                                              |                                                                                   | 15.0                                                                              | 15.0                                                                              |                                                                                   | 15.0                                                                              | 15.0                                                                                |                                                                                     | 15.0                                                                                | 15.0                                                                                |                                                                                     |
| Recall Mode                | Max                                                                               | Max                                                                               |                                                                                   | Max                                                                               | Max                                                                               |                                                                                   | Max                                                                               | Max                                                                                 |                                                                                     | Max                                                                                 | Max                                                                                 |                                                                                     |
| Act Effect Green (s)       |                                                                                   | 32.2                                                                              |                                                                                   |                                                                                   | 32.2                                                                              |                                                                                   |                                                                                   | 23.2                                                                                |                                                                                     |                                                                                     | 23.2                                                                                |                                                                                     |
| Actuated g/C Ratio         |                                                                                   | 0.46                                                                              |                                                                                   |                                                                                   | 0.46                                                                              |                                                                                   |                                                                                   | 0.33                                                                                |                                                                                     |                                                                                     | 0.33                                                                                |                                                                                     |
| v/c Ratio                  |                                                                                   | 0.42                                                                              |                                                                                   |                                                                                   | 0.62                                                                              |                                                                                   |                                                                                   | 0.58                                                                                |                                                                                     |                                                                                     | 0.64                                                                                |                                                                                     |
| Control Delay              |                                                                                   | 13.5                                                                              |                                                                                   |                                                                                   | 19.6                                                                              |                                                                                   |                                                                                   | 23.0                                                                                |                                                                                     |                                                                                     | 24.7                                                                                |                                                                                     |



# Lanes, Volumes, Timings

## 5: South Bay Road & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Queue Delay             |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                    | 0.0                                                                                 |                                                                                     |                                                                                     | 0.0                                                                                 |                                                                                     |
| Total Delay             |                                                                                   | 13.5                                                                              |                                                                                   |                                                                                   | 19.6                                                                              |                                                                                   |                                                                                    | 23.0                                                                                |                                                                                     |                                                                                     | 24.7                                                                                |                                                                                     |
| LOS                     |                                                                                   | B                                                                                 |                                                                                   |                                                                                   | B                                                                                 |                                                                                   |                                                                                    | C                                                                                   |                                                                                     |                                                                                     | C                                                                                   |                                                                                     |
| Approach Delay          |                                                                                   | 13.5                                                                              |                                                                                   |                                                                                   | 19.6                                                                              |                                                                                   |                                                                                    | 23.0                                                                                |                                                                                     |                                                                                     | 24.7                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | B                                                                                 |                                                                                   |                                                                                   | B                                                                                 |                                                                                   |                                                                                    | C                                                                                   |                                                                                     |                                                                                     | C                                                                                   |                                                                                     |
| Queue Length 50th (ft)  |                                                                                   | 81                                                                                |                                                                                   |                                                                                   | 120                                                                               |                                                                                   |                                                                                    | 77                                                                                  |                                                                                     |                                                                                     | 133                                                                                 |                                                                                     |
| Queue Length 95th (ft)  |                                                                                   | 141                                                                               |                                                                                   |                                                                                   | 210                                                                               |                                                                                   |                                                                                    | 135                                                                                 |                                                                                     |                                                                                     | 217                                                                                 |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 708                                                                               |                                                                                   |                                                                                   | 745                                                                               |                                                                                   |                                                                                    | 714                                                                                 |                                                                                     |                                                                                     | 572                                                                                 |                                                                                     |
| Turn Bay Length (ft)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Base Capacity (vph)     |                                                                                   | 785                                                                               |                                                                                   |                                                                                   | 629                                                                               |                                                                                   |                                                                                    | 440                                                                                 |                                                                                     |                                                                                     | 608                                                                                 |                                                                                     |
| Starvation Cap Reductn  |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                    | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                    | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                    | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       |                                                                                   | 0.42                                                                              |                                                                                   |                                                                                   | 0.62                                                                              |                                                                                   |                                                                                    | 0.58                                                                                |                                                                                     |                                                                                     | 0.64                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Natural Cycle: 55

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 20.2

Intersection Capacity Utilization 90.6%

Analysis Period (min) 15

Intersection LOS: C

ICU Level of Service E

Splits and Phases: 5: South Bay Road & Route 31

|                                                                                        |  |                                                                                        |
|----------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------|
|  Ø2 |  |  Ø4 |
| 40 s                                                                                   |  | 30 s                                                                                   |
|  Ø6 |  |  Ø8 |
| 40 s                                                                                   |  | 30 s                                                                                   |



Lanes, Volumes, Timings  
6: Cicero Center Road & Route 31

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (vph)       | 26                                                                                | 221                                                                               | 13                                                                                | 8                                                                                 | 260                                                                               | 6                                                                                 | 9                                                                                 | 5                                                                                   | 5                                                                                   | 3                                                                                   | 20                                                                                  | 51                                                                                  |
| Future Volume (vph)        | 26                                                                                | 221                                                                               | 13                                                                                | 8                                                                                 | 260                                                                               | 6                                                                                 | 9                                                                                 | 5                                                                                   | 5                                                                                   | 3                                                                                   | 20                                                                                  | 51                                                                                  |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Satd. Flow (prot)          | 0                                                                                 | 1840                                                                              | 0                                                                                 | 0                                                                                 | 1855                                                                              | 0                                                                                 | 0                                                                                 | 1772                                                                                | 0                                                                                   | 0                                                                                   | 1703                                                                                | 0                                                                                   |
| Flt Permitted              |                                                                                   | 0.954                                                                             |                                                                                   |                                                                                   | 0.990                                                                             |                                                                                   |                                                                                   | 0.871                                                                               |                                                                                     |                                                                                     | 0.984                                                                               |                                                                                     |
| Satd. Flow (perm)          | 0                                                                                 | 1765                                                                              | 0                                                                                 | 0                                                                                 | 1839                                                                              | 0                                                                                 | 0                                                                                 | 1578                                                                                | 0                                                                                   | 0                                                                                   | 1679                                                                                | 0                                                                                   |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   | 7                                                                                 |                                                                                   |                                                                                   | 3                                                                                 |                                                                                   |                                                                                   | 6                                                                                   |                                                                                     |                                                                                     | 71                                                                                  |                                                                                     |
| Link Speed (mph)           |                                                                                   | 55                                                                                |                                                                                   |                                                                                   | 55                                                                                |                                                                                   |                                                                                   | 55                                                                                  |                                                                                     |                                                                                     | 55                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 583                                                                               |                                                                                   |                                                                                   | 608                                                                               |                                                                                   |                                                                                   | 500                                                                                 |                                                                                     |                                                                                     | 505                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 7.2                                                                               |                                                                                   |                                                                                   | 7.5                                                                               |                                                                                   |                                                                                   | 6.2                                                                                 |                                                                                     |                                                                                     | 6.3                                                                                 |                                                                                     |
| Peak Hour Factor           | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                                | 0.90                                                                                | 0.72                                                                                | 0.72                                                                                | 0.72                                                                                |
| Heavy Vehicles (%)         | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 1%                                                                                | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 0                                                                                 | 280                                                                               | 0                                                                                 | 0                                                                                 | 305                                                                               | 0                                                                                 | 0                                                                                 | 22                                                                                  | 0                                                                                   | 0                                                                                   | 103                                                                                 | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                  |                                                                                     | Perm                                                                                | NA                                                                                  |                                                                                     |
| Protected Phases           |                                                                                   | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                   |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |
| Permitted Phases           | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |                                                                                     |
| Detector Phase             | 2                                                                                 | 2                                                                                 |                                                                                   | 6                                                                                 | 6                                                                                 |                                                                                   | 8                                                                                 | 8                                                                                   |                                                                                     | 4                                                                                   | 4                                                                                   |                                                                                     |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 15.0                                                                              | 15.0                                                                              |                                                                                   | 15.0                                                                              | 15.0                                                                              |                                                                                   | 7.0                                                                               | 7.0                                                                                 |                                                                                     | 7.0                                                                                 | 7.0                                                                                 |                                                                                     |
| Minimum Split (s)          | 21.0                                                                              | 21.0                                                                              |                                                                                   | 21.0                                                                              | 21.0                                                                              |                                                                                   | 12.0                                                                              | 12.0                                                                                |                                                                                     | 12.0                                                                                | 12.0                                                                                |                                                                                     |
| Total Split (s)            | 30.0                                                                              | 30.0                                                                              |                                                                                   | 30.0                                                                              | 30.0                                                                              |                                                                                   | 20.0                                                                              | 20.0                                                                                |                                                                                     | 20.0                                                                                | 20.0                                                                                |                                                                                     |
| Total Split (%)            | 60.0%                                                                             | 60.0%                                                                             |                                                                                   | 60.0%                                                                             | 60.0%                                                                             |                                                                                   | 40.0%                                                                             | 40.0%                                                                               |                                                                                     | 40.0%                                                                               | 40.0%                                                                               |                                                                                     |
| Maximum Green (s)          | 24.0                                                                              | 24.0                                                                              |                                                                                   | 24.0                                                                              | 24.0                                                                              |                                                                                   | 15.0                                                                              | 15.0                                                                                |                                                                                     | 15.0                                                                                | 15.0                                                                                |                                                                                     |
| Yellow Time (s)            | 4.0                                                                               | 4.0                                                                               |                                                                                   | 4.0                                                                               | 4.0                                                                               |                                                                                   | 4.0                                                                               | 4.0                                                                                 |                                                                                     | 4.0                                                                                 | 4.0                                                                                 |                                                                                     |
| All-Red Time (s)           | 2.0                                                                               | 2.0                                                                               |                                                                                   | 2.0                                                                               | 2.0                                                                               |                                                                                   | 1.0                                                                               | 1.0                                                                                 |                                                                                     | 1.0                                                                                 | 1.0                                                                                 |                                                                                     |
| Lost Time Adjust (s)       |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                                 |                                                                                     |                                                                                     | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)        |                                                                                   | 6.0                                                                               |                                                                                   |                                                                                   | 6.0                                                                               |                                                                                   |                                                                                   | 5.0                                                                                 |                                                                                     |                                                                                     | 5.0                                                                                 |                                                                                     |
| Lead/Lag                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?         |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Vehicle Extension (s)      | 5.0                                                                               | 5.0                                                                               |                                                                                   | 5.0                                                                               | 5.0                                                                               |                                                                                   | 2.0                                                                               | 2.0                                                                                 |                                                                                     | 2.0                                                                                 | 2.0                                                                                 |                                                                                     |
| Recall Mode                | Max                                                                               | Max                                                                               |                                                                                   | Max                                                                               | Max                                                                               |                                                                                   | None                                                                              | None                                                                                |                                                                                     | None                                                                                | None                                                                                |                                                                                     |
| Act Effect Green (s)       |                                                                                   | 32.1                                                                              |                                                                                   |                                                                                   | 32.1                                                                              |                                                                                   |                                                                                   | 7.2                                                                                 |                                                                                     |                                                                                     | 7.2                                                                                 |                                                                                     |
| Actuated g/C Ratio         |                                                                                   | 0.74                                                                              |                                                                                   |                                                                                   | 0.74                                                                              |                                                                                   |                                                                                   | 0.17                                                                                |                                                                                     |                                                                                     | 0.17                                                                                |                                                                                     |
| v/c Ratio                  |                                                                                   | 0.21                                                                              |                                                                                   |                                                                                   | 0.22                                                                              |                                                                                   |                                                                                   | 0.08                                                                                |                                                                                     |                                                                                     | 0.30                                                                                |                                                                                     |
| Control Delay              |                                                                                   | 4.4                                                                               |                                                                                   |                                                                                   | 4.5                                                                               |                                                                                   |                                                                                   | 13.6                                                                                |                                                                                     |                                                                                     | 10.0                                                                                |                                                                                     |
| Queue Delay                |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                                 |                                                                                     |                                                                                     | 0.0                                                                                 |                                                                                     |
| Total Delay                |                                                                                   | 4.4                                                                               |                                                                                   |                                                                                   | 4.5                                                                               |                                                                                   |                                                                                   | 13.6                                                                                |                                                                                     |                                                                                     | 10.0                                                                                |                                                                                     |
| LOS                        |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | B                                                                                   |                                                                                     |                                                                                     | A                                                                                   |                                                                                     |



# Lanes, Volumes, Timings

## 6: Cicero Center Road & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Approach Delay          |                                                                                   | 4.4                                                                               |                                                                                   |                                                                                   | 4.5                                                                               |                                                                                   |                                                                                   | 13.6                                                                                |                                                                                     |                                                                                     | 10.0                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | B                                                                                   |                                                                                     |                                                                                     | A                                                                                   |                                                                                     |
| Queue Length 50th (ft)  |                                                                                   | 27                                                                                |                                                                                   |                                                                                   | 30                                                                                |                                                                                   |                                                                                   | 3                                                                                   |                                                                                     |                                                                                     | 7                                                                                   |                                                                                     |
| Queue Length 95th (ft)  |                                                                                   | 59                                                                                |                                                                                   |                                                                                   | 64                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 24                                                                                  |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 503                                                                               |                                                                                   |                                                                                   | 528                                                                               |                                                                                   |                                                                                   | 420                                                                                 |                                                                                     |                                                                                     | 425                                                                                 |                                                                                     |
| Turn Bay Length (ft)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Base Capacity (vph)     |                                                                                   | 1307                                                                              |                                                                                   |                                                                                   | 1361                                                                              |                                                                                   |                                                                                   | 549                                                                                 |                                                                                     |                                                                                     | 627                                                                                 |                                                                                     |
| Starvation Cap Reductn  |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       |                                                                                   | 0.21                                                                              |                                                                                   |                                                                                   | 0.22                                                                              |                                                                                   |                                                                                   | 0.04                                                                                |                                                                                     |                                                                                     | 0.16                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Cycle Length: 50

Actuated Cycle Length: 43.4

Natural Cycle: 40

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.30

Intersection Signal Delay: 5.5

Intersection Capacity Utilization 39.6%

Analysis Period (min) 15

Intersection LOS: A

ICU Level of Service A

Splits and Phases: 6: Cicero Center Road & Route 31

|                                                                                        |  |                                                                                        |
|----------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------|
|  Ø2 |  |  Ø4 |
| 30 s                                                                                   |  | 20 s                                                                                   |
|  Ø6 |  |  Ø8 |
| 30 s                                                                                   |  | 20 s                                                                                   |



Lanes, Volumes, Timings  
7: Route 31 & Lakeshore Road (East)

07/05/2022

|                            |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | WBT                                                                               | WBR                                                                               | SBL                                                                               | SBR                                                                               |
| Lane Configurations        |                                                                                   |  |  |                                                                                   |  |                                                                                   |
| Traffic Volume (vph)       | 16                                                                                | 210                                                                               | 260                                                                               | 24                                                                                | 29                                                                                | 33                                                                                |
| Future Volume (vph)        | 16                                                                                | 210                                                                               | 260                                                                               | 24                                                                                | 29                                                                                | 33                                                                                |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Satd. Flow (prot)          | 0                                                                                 | 1876                                                                              | 1859                                                                              | 0                                                                                 | 1706                                                                              | 0                                                                                 |
| Flt Permitted              |                                                                                   | 0.997                                                                             |                                                                                   |                                                                                   | 0.977                                                                             |                                                                                   |
| Satd. Flow (perm)          | 0                                                                                 | 1876                                                                              | 1859                                                                              | 0                                                                                 | 1706                                                                              | 0                                                                                 |
| Link Speed (mph)           |                                                                                   | 55                                                                                | 55                                                                                |                                                                                   | 35                                                                                |                                                                                   |
| Link Distance (ft)         |                                                                                   | 516                                                                               | 592                                                                               |                                                                                   | 420                                                                               |                                                                                   |
| Travel Time (s)            |                                                                                   | 6.4                                                                               | 7.3                                                                               |                                                                                   | 8.2                                                                               |                                                                                   |
| Confl. Peds. (#/hr)        |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 2                                                                                 |
| Peak Hour Factor           | 0.88                                                                              | 0.88                                                                              | 0.90                                                                              | 0.90                                                                              | 0.79                                                                              | 0.79                                                                              |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)      | 0                                                                                 | 257                                                                               | 316                                                                               | 0                                                                                 | 79                                                                                | 0                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment             | Left                                                                              | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Right                                                                             |
| Median Width(ft)           |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 12                                                                                |                                                                                   |
| Link Offset(ft)            |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 |                                                                                   |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                | 16                                                                                |                                                                                   | 16                                                                                |                                                                                   |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (mph)        | 15                                                                                |                                                                                   |                                                                                   | 9                                                                                 | 15                                                                                | 9                                                                                 |
| Sign Control               |                                                                                   | Free                                                                              | Free                                                                              |                                                                                   | Stop                                                                              |                                                                                   |

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 35.3%

ICU Level of Service A

Analysis Period (min) 15



HCM 6th TWSC  
7: Route 31 & Lakeshore Road (East)

07/05/2022

Intersection

| Int Delay, s/veh         | 1.7  |                                                                                   |                                                                                   |      |                                                                                   |      |
|--------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|------|
| Movement                 | EBL  | EBT                                                                               | WBT                                                                               | WBR  | SBL                                                                               | SBR  |
| Lane Configurations      |      |  |  |      |  |      |
| Traffic Vol, veh/h       | 16   | 210                                                                               | 260                                                                               | 24   | 29                                                                                | 33   |
| Future Vol, veh/h        | 16   | 210                                                                               | 260                                                                               | 24   | 29                                                                                | 33   |
| Conflicting Peds, #/hr   | 0    | 0                                                                                 | 0                                                                                 | 0    | 0                                                                                 | 2    |
| Sign Control             | Free | Free                                                                              | Free                                                                              | Free | Stop                                                                              | Stop |
| RT Channelized           | -    | None                                                                              | -                                                                                 | None | -                                                                                 | None |
| Storage Length           | -    | -                                                                                 | -                                                                                 | -    | 0                                                                                 | -    |
| Veh in Median Storage, # | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Grade, %                 | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Peak Hour Factor         | 88   | 88                                                                                | 90                                                                                | 90   | 79                                                                                | 79   |
| Heavy Vehicles, %        | 1    | 1                                                                                 | 1                                                                                 | 1    | 1                                                                                 | 1    |
| Mvmt Flow                | 18   | 239                                                                               | 289                                                                               | 27   | 37                                                                                | 42   |

| Major/Minor          | Major1 | Major2 | Minor2 |
|----------------------|--------|--------|--------|
| Conflicting Flow All | 316    | 0      | 0      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |
| Critical Hdwy        | 4.11   | -      | -      |
| Critical Hdwy Stg 1  | -      | -      | -      |
| Critical Hdwy Stg 2  | -      | -      | -      |
| Follow-up Hdwy       | 2.209  | -      | -      |
| Pot Cap-1 Maneuver   | 1250   | -      | -      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |
| Platoon blocked, %   | -      | -      | -      |
| Mov Cap-1 Maneuver   | 1250   | -      | -      |
| Mov Cap-2 Maneuver   | -      | -      | -      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |

| Approach             | EB  | WB | SB   |
|----------------------|-----|----|------|
| HCM Control Delay, s | 0.6 | 0  | 12.1 |
| HCM LOS              |     |    | B    |

| Minor Lane/Major Mvmt | EBL   | EBT | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-----|-------|
| Capacity (veh/h)      | 1250  | -   | -   | -   | 583   |
| HCM Lane V/C Ratio    | 0.015 | -   | -   | -   | 0.135 |
| HCM Control Delay (s) | 7.9   | 0   | -   | -   | 12.1  |
| HCM Lane LOS          | A     | A   | -   | -   | B     |
| HCM 95th %tile Q(veh) | 0     | -   | -   | -   | 0.5   |



# Lanes, Volumes, Timings

## 8: Thompson Road & South Bay Road

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |  |  |                                                                                   |  |  |                                                                                   |                                                                                   |  |  |                                                                                     |  |  |
| Traffic Volume (vph)       | 246                                                                               | 265                                                                               | 6                                                                                 | 235                                                                               | 252                                                                               | 7                                                                                 | 7                                                                                 | 183                                                                                 | 148                                                                                 | 7                                                                                   | 187                                                                                 | 162                                                                                 |
| Future Volume (vph)        | 246                                                                               | 265                                                                               | 6                                                                                 | 235                                                                               | 252                                                                               | 7                                                                                 | 7                                                                                 | 183                                                                                 | 148                                                                                 | 7                                                                                   | 187                                                                                 | 162                                                                                 |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 300                                                                               |                                                                                   | 0                                                                                 | 250                                                                               |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                     | 210                                                                                 | 0                                                                                   |                                                                                     | 600                                                                                 |
| Storage Lanes              | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                     | 1                                                                                   | 0                                                                                   |                                                                                     | 1                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 1787                                                                              | 1876                                                                              | 0                                                                                 | 1787                                                                              | 1873                                                                              | 0                                                                                 | 0                                                                                 | 1841                                                                                | 1568                                                                                | 0                                                                                   | 1859                                                                                | 1583                                                                                |
| Flt Permitted              | 0.447                                                                             |                                                                                   |                                                                                   | 0.439                                                                             |                                                                                   |                                                                                   |                                                                                   | 0.986                                                                               |                                                                                     |                                                                                     | 0.986                                                                               |                                                                                     |
| Satd. Flow (perm)          | 840                                                                               | 1876                                                                              | 0                                                                                 | 826                                                                               | 1873                                                                              | 0                                                                                 | 0                                                                                 | 1819                                                                                | 1568                                                                                | 0                                                                                   | 1837                                                                                | 1583                                                                                |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   | 2                                                                                 |                                                                                   |                                                                                   | 2                                                                                 |                                                                                   |                                                                                   |                                                                                     | 185                                                                                 |                                                                                     |                                                                                     | 184                                                                                 |
| Link Speed (mph)           |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 45                                                                                  |                                                                                     |                                                                                     | 45                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 1324                                                                              |                                                                                   |                                                                                   | 1155                                                                              |                                                                                   |                                                                                   | 1095                                                                                |                                                                                     |                                                                                     | 1033                                                                                |                                                                                     |
| Travel Time (s)            |                                                                                   | 20.1                                                                              |                                                                                   |                                                                                   | 17.5                                                                              |                                                                                   |                                                                                   | 16.6                                                                                |                                                                                     |                                                                                     | 15.7                                                                                |                                                                                     |
| Confl. Peds. (#/hr)        | 1                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1                                                                                 |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Peak Hour Factor           | 0.89                                                                              | 0.89                                                                              | 0.89                                                                              | 0.86                                                                              | 0.86                                                                              | 0.86                                                                              | 0.80                                                                              | 0.80                                                                                | 0.80                                                                                | 0.88                                                                                | 0.88                                                                                | 0.88                                                                                |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 3%                                                                                | 3%                                                                                  | 3%                                                                                  | 2%                                                                                  | 2%                                                                                  | 2%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 276                                                                               | 305                                                                               | 0                                                                                 | 273                                                                               | 301                                                                               | 0                                                                                 | 0                                                                                 | 238                                                                                 | 185                                                                                 | 0                                                                                   | 221                                                                                 | 184                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                             | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                  | pm+ov                                                                               | Perm                                                                                | NA                                                                                  | pm+ov                                                                               |
| Protected Phases           | 7                                                                                 | 4                                                                                 |                                                                                   | 3                                                                                 | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                   | 3                                                                                   |                                                                                     | 6                                                                                   | 7                                                                                   |
| Permitted Phases           | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                 |                                                                                     | 2                                                                                   | 6                                                                                   |                                                                                     | 6                                                                                   |
| Detector Phase             | 7                                                                                 | 4                                                                                 |                                                                                   | 3                                                                                 | 8                                                                                 |                                                                                   | 2                                                                                 | 2                                                                                   | 3                                                                                   | 6                                                                                   | 6                                                                                   | 7                                                                                   |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 5.0                                                                               | 10.0                                                                              |                                                                                   | 5.0                                                                               | 5.0                                                                               |                                                                                   | 10.0                                                                              | 10.0                                                                                | 5.0                                                                                 | 10.0                                                                                | 10.0                                                                                | 5.0                                                                                 |
| Minimum Split (s)          | 12.0                                                                              | 17.0                                                                              |                                                                                   | 12.0                                                                              | 12.0                                                                              |                                                                                   | 16.5                                                                              | 16.5                                                                                | 12.0                                                                                | 16.5                                                                                | 16.5                                                                                | 12.0                                                                                |
| Total Split (s)            | 15.0                                                                              | 30.0                                                                              |                                                                                   | 15.0                                                                              | 30.0                                                                              |                                                                                   | 30.0                                                                              | 30.0                                                                                | 15.0                                                                                | 30.0                                                                                | 30.0                                                                                | 15.0                                                                                |
| Total Split (%)            | 20.0%                                                                             | 40.0%                                                                             |                                                                                   | 20.0%                                                                             | 40.0%                                                                             |                                                                                   | 40.0%                                                                             | 40.0%                                                                               | 20.0%                                                                               | 40.0%                                                                               | 40.0%                                                                               | 20.0%                                                                               |
| Maximum Green (s)          | 8.0                                                                               | 23.0                                                                              |                                                                                   | 8.0                                                                               | 23.0                                                                              |                                                                                   | 23.5                                                                              | 23.5                                                                                | 8.0                                                                                 | 23.5                                                                                | 23.5                                                                                | 8.0                                                                                 |
| Yellow Time (s)            | 4.0                                                                               | 4.0                                                                               |                                                                                   | 4.0                                                                               | 4.0                                                                               |                                                                                   | 3.5                                                                               | 3.5                                                                                 | 4.0                                                                                 | 3.5                                                                                 | 3.5                                                                                 | 4.0                                                                                 |
| All-Red Time (s)           | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |
| Lost Time Adjust (s)       | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                                 | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |
| Total Lost Time (s)        | 7.0                                                                               | 7.0                                                                               |                                                                                   | 7.0                                                                               | 7.0                                                                               |                                                                                   |                                                                                   | 6.5                                                                                 | 7.0                                                                                 |                                                                                     | 6.5                                                                                 | 7.0                                                                                 |
| Lead/Lag                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                              | Lag                                                                               |                                                                                   |                                                                                   |                                                                                     | Lead                                                                                |                                                                                     |                                                                                     | Lead                                                                                |
| Lead-Lag Optimize?         | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                               | Yes                                                                               |                                                                                   |                                                                                   |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Vehicle Extension (s)      | 3.0                                                                               | 2.0                                                                               |                                                                                   | 3.0                                                                               | 2.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |
| Recall Mode                | None                                                                              | Min                                                                               |                                                                                   | None                                                                              | Min                                                                               |                                                                                   | Max                                                                               | Max                                                                                 | None                                                                                | Max                                                                                 | Max                                                                                 | None                                                                                |
| Act Effect Green (s)       | 23.4                                                                              | 15.4                                                                              |                                                                                   | 23.4                                                                              | 15.4                                                                              |                                                                                   |                                                                                   | 23.6                                                                                | 38.1                                                                                |                                                                                     | 23.6                                                                                | 38.1                                                                                |
| Actuated g/C Ratio         | 0.35                                                                              | 0.23                                                                              |                                                                                   | 0.35                                                                              | 0.23                                                                              |                                                                                   |                                                                                   | 0.35                                                                                | 0.56                                                                                |                                                                                     | 0.35                                                                                | 0.56                                                                                |
| v/c Ratio                  | 0.68                                                                              | 0.71                                                                              |                                                                                   | 0.68                                                                              | 0.70                                                                              |                                                                                   |                                                                                   | 0.38                                                                                | 0.19                                                                                |                                                                                     | 0.34                                                                                | 0.19                                                                                |



# Lanes, Volumes, Timings

## 8: Thompson Road & South Bay Road

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Control Delay           | 22.7                                                                              | 33.5                                                                              |                                                                                   | 22.6                                                                              | 33.1                                                                              |                                                                                   |                                                                                   | 19.8                                                                                | 2.2                                                                                 |                                                                                     | 19.3                                                                                | 2.1                                                                                 |
| Queue Delay             | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                                 | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |
| Total Delay             | 22.7                                                                              | 33.5                                                                              |                                                                                   | 22.6                                                                              | 33.1                                                                              |                                                                                   |                                                                                   | 19.8                                                                                | 2.2                                                                                 |                                                                                     | 19.3                                                                                | 2.1                                                                                 |
| LOS                     | C                                                                                 | C                                                                                 |                                                                                   | C                                                                                 | C                                                                                 |                                                                                   |                                                                                   | B                                                                                   | A                                                                                   |                                                                                     | B                                                                                   | A                                                                                   |
| Approach Delay          |                                                                                   | 28.4                                                                              |                                                                                   |                                                                                   | 28.1                                                                              |                                                                                   |                                                                                   | 12.1                                                                                |                                                                                     |                                                                                     | 11.5                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | B                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 70                                                                                | 116                                                                               |                                                                                   | 69                                                                                | 114                                                                               |                                                                                   |                                                                                   | 72                                                                                  | 0                                                                                   |                                                                                     | 66                                                                                  | 0                                                                                   |
| Queue Length 95th (ft)  | 116                                                                               | 187                                                                               |                                                                                   | 110                                                                               | 177                                                                               |                                                                                   |                                                                                   | 126                                                                                 | 20                                                                                  |                                                                                     | 132                                                                                 | 26                                                                                  |
| Internal Link Dist (ft) |                                                                                   | 1244                                                                              |                                                                                   |                                                                                   | 1075                                                                              |                                                                                   |                                                                                   | 1015                                                                                |                                                                                     |                                                                                     | 953                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 300                                                                               |                                                                                   |                                                                                   | 250                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 210                                                                                 |                                                                                     |                                                                                     | 600                                                                                 |
| Base Capacity (vph)     | 403                                                                               | 642                                                                               |                                                                                   | 400                                                                               | 641                                                                               |                                                                                   |                                                                                   | 634                                                                                 | 965                                                                                 |                                                                                     | 641                                                                                 | 973                                                                                 |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |
| Reduced v/c Ratio       | 0.68                                                                              | 0.48                                                                              |                                                                                   | 0.68                                                                              | 0.47                                                                              |                                                                                   |                                                                                   | 0.38                                                                                | 0.19                                                                                |                                                                                     | 0.34                                                                                | 0.19                                                                                |

### Intersection Summary

Area Type: Other  
 Cycle Length: 75  
 Actuated Cycle Length: 67.6  
 Natural Cycle: 60  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.71  
 Intersection Signal Delay: 21.4  
 Intersection Capacity Utilization 59.9%  
 Analysis Period (min) 15

Intersection LOS: C  
 ICU Level of Service B

### Splits and Phases: 8: Thompson Road & South Bay Road

|                                                                                        |                                                                                        |                                                                                        |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
|  Ø2 |  Ø3 |  Ø4 |
| 30 s                                                                                   | 15 s                                                                                   | 30 s                                                                                   |
|  Ø6 |  Ø7 |  Ø8 |
| 30 s                                                                                   | 15 s                                                                                   | 30 s                                                                                   |



# Lanes, Volumes, Timings

## 9: Lakeshore Road & Mudd Mill Road

07/05/2022

|                            |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | WBT                                                                               | WBR                                                                               | SBL                                                                               | SBR                                                                               |
| Lane Configurations        |                                                                                   |  |  |                                                                                   |  |                                                                                   |
| Traffic Volume (vph)       | 13                                                                                | 72                                                                                | 109                                                                               | 56                                                                                | 81                                                                                | 31                                                                                |
| Future Volume (vph)        | 13                                                                                | 72                                                                                | 109                                                                               | 56                                                                                | 81                                                                                | 31                                                                                |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Satd. Flow (prot)          | 0                                                                                 | 1812                                                                              | 1710                                                                              | 0                                                                                 | 1682                                                                              | 0                                                                                 |
| Flt Permitted              |                                                                                   | 0.992                                                                             |                                                                                   |                                                                                   | 0.965                                                                             |                                                                                   |
| Satd. Flow (perm)          | 0                                                                                 | 1812                                                                              | 1710                                                                              | 0                                                                                 | 1682                                                                              | 0                                                                                 |
| Link Speed (mph)           |                                                                                   | 35                                                                                | 35                                                                                |                                                                                   | 35                                                                                |                                                                                   |
| Link Distance (ft)         |                                                                                   | 753                                                                               | 701                                                                               |                                                                                   | 545                                                                               |                                                                                   |
| Travel Time (s)            |                                                                                   | 14.7                                                                              | 13.7                                                                              |                                                                                   | 10.6                                                                              |                                                                                   |
| Peak Hour Factor           | 0.87                                                                              | 0.87                                                                              | 0.85                                                                              | 0.85                                                                              | 0.91                                                                              | 0.91                                                                              |
| Heavy Vehicles (%)         | 4%                                                                                | 4%                                                                                | 6%                                                                                | 6%                                                                                | 5%                                                                                | 5%                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)      | 0                                                                                 | 98                                                                                | 194                                                                               | 0                                                                                 | 123                                                                               | 0                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment             | Left                                                                              | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Right                                                                             |
| Median Width(ft)           |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 12                                                                                |                                                                                   |
| Link Offset(ft)            |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 |                                                                                   |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                | 16                                                                                |                                                                                   | 16                                                                                |                                                                                   |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (mph)        | 15                                                                                |                                                                                   |                                                                                   | 9                                                                                 | 15                                                                                | 9                                                                                 |
| Sign Control               |                                                                                   | Free                                                                              | Free                                                                              |                                                                                   | Stop                                                                              |                                                                                   |

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 27.9%

ICU Level of Service A

Analysis Period (min) 15



HCM 6th TWSC  
9: Lakeshore Road & Mudd Mill Road

07/05/2022

Intersection

| Int Delay, s/veh         | 3.5  |                                                                                   |                                                                                   |      |                                                                                   |      |
|--------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|------|
| Movement                 | EBL  | EBT                                                                               | WBT                                                                               | WBR  | SBL                                                                               | SBR  |
| Lane Configurations      |      |  |  |      |  |      |
| Traffic Vol, veh/h       | 13   | 72                                                                                | 109                                                                               | 56   | 81                                                                                | 31   |
| Future Vol, veh/h        | 13   | 72                                                                                | 109                                                                               | 56   | 81                                                                                | 31   |
| Conflicting Peds, #/hr   | 0    | 0                                                                                 | 0                                                                                 | 0    | 0                                                                                 | 0    |
| Sign Control             | Free | Free                                                                              | Free                                                                              | Free | Stop                                                                              | Stop |
| RT Channelized           | -    | None                                                                              | -                                                                                 | None | -                                                                                 | None |
| Storage Length           | -    | -                                                                                 | -                                                                                 | -    | 0                                                                                 | -    |
| Veh in Median Storage, # | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Grade, %                 | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Peak Hour Factor         | 87   | 87                                                                                | 85                                                                                | 85   | 91                                                                                | 91   |
| Heavy Vehicles, %        | 4    | 4                                                                                 | 6                                                                                 | 6    | 5                                                                                 | 5    |
| Mvmt Flow                | 15   | 83                                                                                | 128                                                                               | 66   | 89                                                                                | 34   |

| Major/Minor          | Major1 | Major2 | Minor2 |
|----------------------|--------|--------|--------|
| Conflicting Flow All | 194    | 0      | 274    |
| Stage 1              | -      | -      | 161    |
| Stage 2              | -      | -      | 113    |
| Critical Hdwy        | 4.14   | -      | 6.45   |
| Critical Hdwy Stg 1  | -      | -      | 5.45   |
| Critical Hdwy Stg 2  | -      | -      | 5.45   |
| Follow-up Hdwy       | 2.236  | -      | 3.545  |
| Pot Cap-1 Maneuver   | 1367   | -      | 709    |
| Stage 1              | -      | -      | 861    |
| Stage 2              | -      | -      | 904    |
| Platoon blocked, %   | -      | -      | -      |
| Mov Cap-1 Maneuver   | 1367   | -      | 700    |
| Mov Cap-2 Maneuver   | -      | -      | 700    |
| Stage 1              | -      | -      | 851    |
| Stage 2              | -      | -      | 904    |

| Approach             | EB  | WB | SB   |
|----------------------|-----|----|------|
| HCM Control Delay, s | 1.2 | 0  | 10.8 |
| HCM LOS              |     |    | B    |

| Minor Lane/Major Mvmt | EBL   | EBT | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-----|-------|
| Capacity (veh/h)      | 1367  | -   | -   | -   | 741   |
| HCM Lane V/C Ratio    | 0.011 | -   | -   | -   | 0.166 |
| HCM Control Delay (s) | 7.7   | 0   | -   | -   | 10.8  |
| HCM Lane LOS          | A     | A   | -   | -   | B     |
| HCM 95th %tile Q(veh) | 0     | -   | -   | -   | 0.6   |



# Lanes, Volumes, Timings

## 10: South Bay Road & Lakeshore Road

07/05/2022

|                            |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                 | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations        |  |                                                                                   |                                                                                   |  |  |                                                                                   |
| Traffic Volume (vph)       | 91                                                                                | 3                                                                                 | 84                                                                                | 69                                                                                | 3                                                                                 | 79                                                                                |
| Future Volume (vph)        | 91                                                                                | 3                                                                                 | 84                                                                                | 69                                                                                | 3                                                                                 | 79                                                                                |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Satd. Flow (prot)          | 1802                                                                              | 0                                                                                 | 0                                                                                 | 1778                                                                              | 1571                                                                              | 0                                                                                 |
| Flt Permitted              |                                                                                   |                                                                                   |                                                                                   | 0.973                                                                             | 0.998                                                                             |                                                                                   |
| Satd. Flow (perm)          | 1802                                                                              | 0                                                                                 | 0                                                                                 | 1778                                                                              | 1571                                                                              | 0                                                                                 |
| Link Speed (mph)           | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                | 45                                                                                |                                                                                   |
| Link Distance (ft)         | 538                                                                               |                                                                                   |                                                                                   | 300                                                                               | 501                                                                               |                                                                                   |
| Travel Time (s)            | 10.5                                                                              |                                                                                   |                                                                                   | 5.8                                                                               | 7.6                                                                               |                                                                                   |
| Confl. Peds. (#/hr)        |                                                                                   | 1                                                                                 | 1                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Peak Hour Factor           | 0.78                                                                              | 0.78                                                                              | 0.84                                                                              | 0.84                                                                              | 0.92                                                                              | 0.92                                                                              |
| Heavy Vehicles (%)         | 5%                                                                                | 5%                                                                                | 4%                                                                                | 4%                                                                                | 5%                                                                                | 5%                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)      | 121                                                                               | 0                                                                                 | 0                                                                                 | 182                                                                               | 89                                                                                | 0                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment             | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Left                                                                              | Right                                                                             |
| Median Width(ft)           | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 | 12                                                                                |                                                                                   |
| Link Offset(ft)            | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |
| Crosswalk Width(ft)        | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                | 16                                                                                |                                                                                   |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (mph)        |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 15                                                                                | 9                                                                                 |
| Sign Control               | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              | Stop                                                                              |                                                                                   |

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 26.7%

ICU Level of Service A

Analysis Period (min) 15



HCM 6th TWSC  
10: South Bay Road & Lakeshore Road

07/05/2022

Intersection

| Int Delay, s/veh         | 4.1  |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      | ↰    |      |      | ↱    | ↰    | ↱    |
| Traffic Vol, veh/h       | 91   | 3    | 84   | 69   | 3    | 79   |
| Future Vol, veh/h        | 91   | 3    | 84   | 69   | 3    | 79   |
| Conflicting Peds, #/hr   | 0    | 1    | 1    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | -    | -    | 0    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 78   | 78   | 84   | 84   | 92   | 92   |
| Heavy Vehicles, %        | 5    | 5    | 4    | 4    | 5    | 5    |
| Mvmt Flow                | 117  | 4    | 100  | 82   | 3    | 86   |

| Major/Minor          | Major1 | Major2 | Minor1 |
|----------------------|--------|--------|--------|
| Conflicting Flow All | 0      | 0      | 122    |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |
| Critical Hdwy        | -      | -      | 4.14   |
| Critical Hdwy Stg 1  | -      | -      | -      |
| Critical Hdwy Stg 2  | -      | -      | -      |
| Follow-up Hdwy       | -      | -      | 2.236  |
| Pot Cap-1 Maneuver   | -      | -      | 1453   |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |
| Platoon blocked, %   | -      | -      | -      |
| Mov Cap-1 Maneuver   | -      | -      | 1452   |
| Mov Cap-2 Maneuver   | -      | -      | -      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |

| Approach             | EB | WB  | NB  |
|----------------------|----|-----|-----|
| HCM Control Delay, s | 0  | 4.2 | 9.4 |
| HCM LOS              |    |     | A   |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL   | WBT |
|-----------------------|-------|-----|-----|-------|-----|
| Capacity (veh/h)      | 900   | -   | -   | 1452  | -   |
| HCM Lane V/C Ratio    | 0.099 | -   | -   | 0.069 | -   |
| HCM Control Delay (s) | 9.4   | -   | -   | 7.7   | 0   |
| HCM Lane LOS          | A     | -   | -   | A     | A   |
| HCM 95th %tile Q(veh) | 0.3   | -   | -   | 0.2   | -   |



# Lanes, Volumes, Timings

## 11: Cicero Center Road/Van Antwerp Drive & Lakeshore Road

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (vph)       | 2                                                                                 | 160                                                                               | 8                                                                                 | 9                                                                                 | 143                                                                               | 0                                                                                 | 7                                                                                 | 0                                                                                   | 13                                                                                  | 1                                                                                   | 0                                                                                   | 3                                                                                   |
| Future Volume (vph)        | 2                                                                                 | 160                                                                               | 8                                                                                 | 9                                                                                 | 143                                                                               | 0                                                                                 | 7                                                                                 | 0                                                                                   | 13                                                                                  | 1                                                                                   | 0                                                                                   | 3                                                                                   |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Satd. Flow (prot)          | 0                                                                                 | 1850                                                                              | 0                                                                                 | 0                                                                                 | 1857                                                                              | 0                                                                                 | 0                                                                                 | 1670                                                                                | 0                                                                                   | 0                                                                                   | 1660                                                                                | 0                                                                                   |
| Flt Permitted              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.997                                                                             |                                                                                   |                                                                                   | 0.983                                                                               |                                                                                     |                                                                                     | 0.986                                                                               |                                                                                     |
| Satd. Flow (perm)          | 0                                                                                 | 1850                                                                              | 0                                                                                 | 0                                                                                 | 1857                                                                              | 0                                                                                 | 0                                                                                 | 1670                                                                                | 0                                                                                   | 0                                                                                   | 1660                                                                                | 0                                                                                   |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 55                                                                                  |                                                                                     |                                                                                     | 30                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 557                                                                               |                                                                                   |                                                                                   | 543                                                                               |                                                                                   |                                                                                   | 388                                                                                 |                                                                                     |                                                                                     | 295                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 10.9                                                                              |                                                                                   |                                                                                   | 10.6                                                                              |                                                                                   |                                                                                   | 4.8                                                                                 |                                                                                     |                                                                                     | 6.7                                                                                 |                                                                                     |
| Confl. Peds. (#/hr)        | 1                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1                                                                                 | 2                                                                                 |                                                                                     | 1                                                                                   | 1                                                                                   |                                                                                     | 2                                                                                   |
| Peak Hour Factor           | 0.83                                                                              | 0.83                                                                              | 0.83                                                                              | 0.79                                                                              | 0.79                                                                              | 0.79                                                                              | 0.55                                                                              | 0.55                                                                                | 0.55                                                                                | 0.63                                                                                | 0.63                                                                                | 0.63                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 0                                                                                 | 205                                                                               | 0                                                                                 | 0                                                                                 | 192                                                                               | 0                                                                                 | 0                                                                                 | 37                                                                                  | 0                                                                                   | 0                                                                                   | 7                                                                                   | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Sign Control               |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Stop                                                                                |                                                                                     |                                                                                     | Stop                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 23.7%

ICU Level of Service A

Analysis Period (min) 15



## Intersection

Int Delay, s/veh 1.3

| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations      |      | ↔    |      |      | ↔    |      |      | ↔    |      |      | ↔    |      |
| Traffic Vol, veh/h       | 2    | 160  | 8    | 9    | 143  | 0    | 7    | 0    | 13   | 1    | 0    | 3    |
| Future Vol, veh/h        | 2    | 160  | 8    | 9    | 143  | 0    | 7    | 0    | 13   | 1    | 0    | 3    |
| Conflicting Peds, #/hr   | 1    | 0    | 0    | 0    | 0    | 1    | 2    | 0    | 1    | 1    | 0    | 2    |
| Sign Control             | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -    | None |
| Storage Length           | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 83   | 83   | 83   | 79   | 79   | 79   | 55   | 55   | 55   | 63   | 63   | 63   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 2    | 193  | 10   | 11   | 181  | 0    | 13   | 0    | 24   | 2    | 0    | 5    |

| Major/Minor          | Major1 |   | Major2 |       | Minor1 |   | Minor2 |       |       |       |       |       |
|----------------------|--------|---|--------|-------|--------|---|--------|-------|-------|-------|-------|-------|
| Conflicting Flow All | 182    | 0 | 0      | 203   | 0      | 0 | 410    | 406   | 199   | 419   | 411   | 184   |
| Stage 1              | -      | - | -      | -     | -      | - | 202    | 202   | -     | 204   | 204   | -     |
| Stage 2              | -      | - | -      | -     | -      | - | 208    | 204   | -     | 215   | 207   | -     |
| Critical Hdwy        | 4.12   | - | -      | 4.12  | -      | - | 7.12   | 6.52  | 6.22  | 7.12  | 6.52  | 6.22  |
| Critical Hdwy Stg 1  | -      | - | -      | -     | -      | - | 6.12   | 5.52  | -     | 6.12  | 5.52  | -     |
| Critical Hdwy Stg 2  | -      | - | -      | -     | -      | - | 6.12   | 5.52  | -     | 6.12  | 5.52  | -     |
| Follow-up Hdwy       | 2.218  | - | -      | 2.218 | -      | - | 3.518  | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver   | 1393   | - | -      | 1369  | -      | - | 552    | 534   | 842   | 544   | 531   | 858   |
| Stage 1              | -      | - | -      | -     | -      | - | 800    | 734   | -     | 798   | 733   | -     |
| Stage 2              | -      | - | -      | -     | -      | - | 794    | 733   | -     | 787   | 731   | -     |
| Platoon blocked, %   | -      | - | -      | -     | -      | - | -      | -     | -     | -     | -     | -     |
| Mov Cap-1 Maneuver   | 1392   | - | -      | 1369  | -      | - | 543    | 528   | 841   | 523   | 525   | 856   |
| Mov Cap-2 Maneuver   | -      | - | -      | -     | -      | - | 543    | 528   | -     | 523   | 525   | -     |
| Stage 1              | -      | - | -      | -     | -      | - | 798    | 733   | -     | 796   | 726   | -     |
| Stage 2              | -      | - | -      | -     | -      | - | 781    | 726   | -     | 763   | 730   | -     |

| Approach             | EB  | WB  | NB   | SB  |
|----------------------|-----|-----|------|-----|
| HCM Control Delay, s | 0.1 | 0.5 | 10.4 | 9.9 |
| HCM LOS              |     |     | B    | A   |

| Minor Lane/Major Mvmt | NBLn1 | EBL   | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 705   | 1392  | -   | -   | 1369  | -   | -   | 738   |
| HCM Lane V/C Ratio    | 0.052 | 0.002 | -   | -   | 0.008 | -   | -   | 0.009 |
| HCM Control Delay (s) | 10.4  | 7.6   | 0   | -   | 7.7   | 0   | -   | 9.9   |
| HCM Lane LOS          | B     | A     | A   | -   | A     | A   | -   | A     |
| HCM 95th %tile Q(veh) | 0.2   | 0     | -   | -   | 0     | -   | -   | 0     |



# Lanes, Volumes, Timings

## 1: Route 11 & Route 31

07/05/2022

|                            |  |  |  |  |  |  |   |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |  |  |                                                                                   |  |  |                                                                                   |  |  |  |  |  |                                                                                     |
| Traffic Volume (vph)       | 63                                                                                | 492                                                                               | 106                                                                               | 447                                                                               | 586                                                                               | 129                                                                               | 130                                                                                | 312                                                                                 | 544                                                                                 | 198                                                                                 | 189                                                                                 | 90                                                                                  |
| Future Volume (vph)        | 63                                                                                | 492                                                                               | 106                                                                               | 447                                                                               | 586                                                                               | 129                                                                               | 130                                                                                | 312                                                                                 | 544                                                                                 | 198                                                                                 | 189                                                                                 | 90                                                                                  |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                               | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 200                                                                               |                                                                                   | 310                                                                               | 495                                                                               |                                                                                   | 0                                                                                 | 175                                                                                |                                                                                     | 0                                                                                   | 350                                                                                 |                                                                                     | 0                                                                                   |
| Storage Lanes              | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                  |                                                                                     | 1                                                                                   | 1                                                                                   |                                                                                     | 0                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                 |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 1787                                                                              | 3478                                                                              | 0                                                                                 | 1787                                                                              | 3478                                                                              | 0                                                                                 | 1787                                                                               | 1881                                                                                | 1599                                                                                | 1770                                                                                | 3369                                                                                | 0                                                                                   |
| Flt Permitted              | 0.336                                                                             |                                                                                   |                                                                                   | 0.151                                                                             |                                                                                   |                                                                                   | 0.508                                                                              |                                                                                     |                                                                                     | 0.197                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)          | 632                                                                               | 3478                                                                              | 0                                                                                 | 284                                                                               | 3478                                                                              | 0                                                                                 | 956                                                                                | 1881                                                                                | 1579                                                                                | 367                                                                                 | 3369                                                                                | 0                                                                                   |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                    |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   | 17                                                                                |                                                                                   |                                                                                   | 18                                                                                |                                                                                   |                                                                                    |                                                                                     | 89                                                                                  |                                                                                     | 54                                                                                  |                                                                                     |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                    | 35                                                                                  |                                                                                     |                                                                                     | 35                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 385                                                                               |                                                                                   |                                                                                   | 703                                                                               |                                                                                   |                                                                                    | 612                                                                                 |                                                                                     |                                                                                     | 561                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 7.5                                                                               |                                                                                   |                                                                                   | 13.7                                                                              |                                                                                   |                                                                                    | 11.9                                                                                |                                                                                     |                                                                                     | 10.9                                                                                |                                                                                     |
| Confl. Peds. (#/hr)        |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     | 1                                                                                   | 1                                                                                   |                                                                                     |                                                                                     |
| Peak Hour Factor           | 0.95                                                                              | 0.95                                                                              | 0.95                                                                              | 0.85                                                                              | 0.85                                                                              | 0.85                                                                              | 0.95                                                                               | 0.95                                                                                | 0.95                                                                                | 0.86                                                                                | 0.86                                                                                | 0.86                                                                                |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                 | 1%                                                                                  | 1%                                                                                  | 2%                                                                                  | 2%                                                                                  | 2%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 66                                                                                | 630                                                                               | 0                                                                                 | 526                                                                               | 841                                                                               | 0                                                                                 | 137                                                                                | 328                                                                                 | 573                                                                                 | 230                                                                                 | 325                                                                                 | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                 | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                               | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                    | 12                                                                                  |                                                                                     |                                                                                     | 12                                                                                  |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                    | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                    | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                 |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                              | NA                                                                                  | pm+ov                                                                               | pm+pt                                                                               | NA                                                                                  |                                                                                     |
| Protected Phases           | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 3                                                                                  | 8                                                                                   | 1                                                                                   | 7                                                                                   | 4                                                                                   |                                                                                     |
| Permitted Phases           | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                  |                                                                                     | 8                                                                                   | 4                                                                                   |                                                                                     |                                                                                     |
| Detector Phase             | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 3                                                                                  | 8                                                                                   | 1                                                                                   | 7                                                                                   | 4                                                                                   |                                                                                     |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 4.0                                                                               | 12.0                                                                              |                                                                                   | 8.0                                                                               | 12.0                                                                              |                                                                                   | 4.0                                                                                | 8.0                                                                                 | 8.0                                                                                 | 4.0                                                                                 | 8.0                                                                                 |                                                                                     |
| Minimum Split (s)          | 9.5                                                                               | 18.0                                                                              |                                                                                   | 13.5                                                                              | 18.0                                                                              |                                                                                   | 10.0                                                                               | 14.0                                                                                | 13.5                                                                                | 9.5                                                                                 | 14.0                                                                                |                                                                                     |
| Total Split (s)            | 40.0                                                                              | 40.0                                                                              |                                                                                   | 40.0                                                                              | 40.0                                                                              |                                                                                   | 20.0                                                                               | 40.0                                                                                | 40.0                                                                                | 20.0                                                                                | 40.0                                                                                |                                                                                     |
| Total Split (%)            | 28.6%                                                                             | 28.6%                                                                             |                                                                                   | 28.6%                                                                             | 28.6%                                                                             |                                                                                   | 14.3%                                                                              | 28.6%                                                                               | 28.6%                                                                               | 14.3%                                                                               | 28.6%                                                                               |                                                                                     |
| Maximum Green (s)          | 34.5                                                                              | 34.0                                                                              |                                                                                   | 34.5                                                                              | 34.0                                                                              |                                                                                   | 14.0                                                                               | 34.0                                                                                | 34.5                                                                                | 14.5                                                                                | 34.0                                                                                |                                                                                     |
| Yellow Time (s)            | 3.5                                                                               | 3.5                                                                               |                                                                                   | 3.5                                                                               | 3.5                                                                               |                                                                                   | 3.5                                                                                | 3.5                                                                                 | 3.5                                                                                 | 3.0                                                                                 | 3.5                                                                                 |                                                                                     |
| All-Red Time (s)           | 2.0                                                                               | 2.5                                                                               |                                                                                   | 2.0                                                                               | 2.5                                                                               |                                                                                   | 2.5                                                                                | 2.5                                                                                 | 2.0                                                                                 | 2.5                                                                                 | 2.5                                                                                 |                                                                                     |
| Lost Time Adjust (s)       | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                                | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)        | 5.5                                                                               | 6.0                                                                               |                                                                                   | 5.5                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                                | 6.0                                                                                 | 5.5                                                                                 | 5.5                                                                                 | 6.0                                                                                 |                                                                                     |
| Lead/Lag                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                               | Lag                                                                                 | Lead                                                                                | Lead                                                                                | Lag                                                                                 |                                                                                     |
| Lead-Lag Optimize?         | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                                | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 |                                                                                     |
| Vehicle Extension (s)      | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                                | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |
| Recall Mode                | None                                                                              | Min                                                                               |                                                                                   | None                                                                              | Min                                                                               |                                                                                   | None                                                                               | None                                                                                | None                                                                                | None                                                                                | None                                                                                |                                                                                     |
| Act Effect Green (s)       | 36.1                                                                              | 27.5                                                                              |                                                                                   | 68.3                                                                              | 56.9                                                                              |                                                                                   | 38.2                                                                               | 26.5                                                                                | 61.7                                                                                | 43.4                                                                                | 28.6                                                                                |                                                                                     |
| Actuated g/C Ratio         | 0.29                                                                              | 0.22                                                                              |                                                                                   | 0.54                                                                              | 0.45                                                                              |                                                                                   | 0.30                                                                               | 0.21                                                                                | 0.49                                                                                | 0.34                                                                                | 0.23                                                                                |                                                                                     |
| v/c Ratio                  | 0.26                                                                              | 0.82                                                                              |                                                                                   | 0.93                                                                              | 0.53                                                                              |                                                                                   | 0.38                                                                               | 0.83                                                                                | 0.70                                                                                | 0.81                                                                                | 0.40                                                                                |                                                                                     |



# Lanes, Volumes, Timings

## 1: Route 11 & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Control Delay           | 21.8                                                                              | 55.5                                                                              |                                                                                   | 56.6                                                                              | 27.7                                                                              |                                                                                   | 31.3                                                                              | 66.8                                                                                | 23.9                                                                                | 52.7                                                                                | 36.6                                                                                |                                                                                     |
| Queue Delay             | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Delay             | 21.8                                                                              | 55.5                                                                              |                                                                                   | 56.6                                                                              | 27.7                                                                              |                                                                                   | 31.3                                                                              | 66.8                                                                                | 23.9                                                                                | 52.7                                                                                | 36.6                                                                                |                                                                                     |
| LOS                     | C                                                                                 | E                                                                                 |                                                                                   | E                                                                                 | C                                                                                 |                                                                                   | C                                                                                 | E                                                                                   | C                                                                                   | D                                                                                   | D                                                                                   |                                                                                     |
| Approach Delay          |                                                                                   | 52.3                                                                              |                                                                                   |                                                                                   | 38.8                                                                              |                                                                                   |                                                                                   | 38.4                                                                                |                                                                                     |                                                                                     | 43.3                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | D                                                                                   |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 25                                                                                | 255                                                                               |                                                                                   | 357                                                                               | 265                                                                               |                                                                                   | 77                                                                                | 262                                                                                 | 279                                                                                 | 136                                                                                 | 101                                                                                 |                                                                                     |
| Queue Length 95th (ft)  | 54                                                                                | 344                                                                               |                                                                                   | #582                                                                              | 341                                                                               |                                                                                   | 134                                                                               | 388                                                                                 | 438                                                                                 | #233                                                                                | 146                                                                                 |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 305                                                                               |                                                                                   |                                                                                   | 623                                                                               |                                                                                   |                                                                                   | 532                                                                                 |                                                                                     |                                                                                     | 481                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 200                                                                               |                                                                                   |                                                                                   | 495                                                                               |                                                                                   |                                                                                   | 175                                                                               |                                                                                     |                                                                                     | 350                                                                                 |                                                                                     |                                                                                     |
| Base Capacity (vph)     | 633                                                                               | 958                                                                               |                                                                                   | 568                                                                               | 1578                                                                              |                                                                                   | 400                                                                               | 511                                                                                 | 824                                                                                 | 289                                                                                 | 955                                                                                 |                                                                                     |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       | 0.10                                                                              | 0.66                                                                              |                                                                                   | 0.93                                                                              | 0.53                                                                              |                                                                                   | 0.34                                                                              | 0.64                                                                                | 0.70                                                                                | 0.80                                                                                | 0.34                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 126.2

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.93

Intersection Signal Delay: 42.0

Intersection LOS: D

Intersection Capacity Utilization 88.3%

ICU Level of Service E

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

### Splits and Phases: 1: Route 11 & Route 31

|                                                                                        |                                                                                        |                                                                                        |                                                                                          |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
|  Ø1 |  Ø2 |  Ø3 |  Ø4 |
| 40 s                                                                                   | 40 s                                                                                   | 20 s                                                                                   | 40 s                                                                                     |
|  Ø5 |  Ø6 |  Ø7 |  Ø8 |
| 40 s                                                                                   | 40 s                                                                                   | 20 s                                                                                   | 40 s                                                                                     |



# Lanes, Volumes, Timings

## 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |                                                                                   |  |                                                                                   |  |  |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |  |  |
| Traffic Volume (vph)       | 0                                                                                 | 971                                                                               | 263                                                                               | 365                                                                               | 1032                                                                              | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 138                                                                                 | 0                                                                                   | 130                                                                                 |
| Future Volume (vph)        | 0                                                                                 | 971                                                                               | 263                                                                               | 365                                                                               | 1032                                                                              | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 138                                                                                 | 0                                                                                   | 130                                                                                 |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 0                                                                                 |                                                                                   | 0                                                                                 | 150                                                                               |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     | 125                                                                                 |
| Storage Lanes              | 0                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     | 1                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 0                                                                                 | 3410                                                                              | 0                                                                                 | 1787                                                                              | 3574                                                                              | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 1752                                                                                | 1568                                                                                |
| Flt Permitted              |                                                                                   |                                                                                   |                                                                                   | 0.074                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 0.950                                                                               |                                                                                     |
| Satd. Flow (perm)          | 0                                                                                 | 3410                                                                              | 0                                                                                 | 139                                                                               | 3574                                                                              | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 1752                                                                                | 1568                                                                                |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   | 38                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 155                                                                                 |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 40                                                                                  |                                                                                     |                                                                                     | 40                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 703                                                                               |                                                                                   |                                                                                   | 360                                                                               |                                                                                   |                                                                                   | 622                                                                                 |                                                                                     |                                                                                     | 505                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 13.7                                                                              |                                                                                   |                                                                                   | 7.0                                                                               |                                                                                   |                                                                                   | 10.6                                                                                |                                                                                     |                                                                                     | 8.6                                                                                 |                                                                                     |
| Confl. Peds. (#/hr)        | 1                                                                                 |                                                                                   | 1                                                                                 | 1                                                                                 |                                                                                   | 1                                                                                 |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Peak Hour Factor           | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.96                                                                              | 0.96                                                                              | 0.96                                                                              | 0.90                                                                              | 0.90                                                                                | 0.90                                                                                | 0.84                                                                                | 0.84                                                                                | 0.84                                                                                |
| Heavy Vehicles (%)         | 2%                                                                                | 2%                                                                                | 2%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                  | 1%                                                                                  | 3%                                                                                  | 3%                                                                                  | 3%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 0                                                                                 | 1327                                                                              | 0                                                                                 | 380                                                                               | 1075                                                                              | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 164                                                                                 | 155                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  |                                                                                   | NA                                                                                |                                                                                   | pm+pt                                                                             | NA                                                                                |                                                                                   |                                                                                   |                                                                                     |                                                                                     | Perm                                                                                | NA                                                                                  | Perm                                                                                |
| Protected Phases           |                                                                                   | 2                                                                                 |                                                                                   | 1 3                                                                               | 6                                                                                 |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |
| Permitted Phases           |                                                                                   |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     | 4                                                                                   |
| Detector Phase             |                                                                                   | 2                                                                                 |                                                                                   | 1 3                                                                               | 6                                                                                 |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 4                                                                                   | 4                                                                                   | 4                                                                                   |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        |                                                                                   | 12.0                                                                              |                                                                                   |                                                                                   | 12.0                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 |
| Minimum Split (s)          |                                                                                   | 17.0                                                                              |                                                                                   |                                                                                   | 17.0                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 9.0                                                                                 | 9.0                                                                                 | 9.0                                                                                 |
| Total Split (s)            |                                                                                   | 50.0                                                                              |                                                                                   |                                                                                   | 91.0                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 19.0                                                                                | 19.0                                                                                | 19.0                                                                                |
| Total Split (%)            |                                                                                   | 45.5%                                                                             |                                                                                   |                                                                                   | 82.7%                                                                             |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 17.3%                                                                               | 17.3%                                                                               | 17.3%                                                                               |
| Maximum Green (s)          |                                                                                   | 45.0                                                                              |                                                                                   |                                                                                   | 86.0                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 14.0                                                                                | 14.0                                                                                | 14.0                                                                                |
| Yellow Time (s)            |                                                                                   | 3.5                                                                               |                                                                                   |                                                                                   | 3.5                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 |
| All-Red Time (s)           |                                                                                   | 1.5                                                                               |                                                                                   |                                                                                   | 1.5                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 1.0                                                                                 | 1.0                                                                                 | 1.0                                                                                 |
| Lost Time Adjust (s)       |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |
| Total Lost Time (s)        |                                                                                   | 5.0                                                                               |                                                                                   |                                                                                   | 5.0                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |
| Lead/Lag                   |                                                                                   | Lag                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?         |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Vehicle Extension (s)      |                                                                                   | 3.0                                                                               |                                                                                   |                                                                                   | 3.0                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |
| Recall Mode                |                                                                                   | C-Min                                                                             |                                                                                   |                                                                                   | C-Min                                                                             |                                                                                   |                                                                                   |                                                                                     |                                                                                     | None                                                                                | None                                                                                | None                                                                                |
| Act Effect Green (s)       |                                                                                   | 49.6                                                                              |                                                                                   | 85.7                                                                              | 85.7                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 14.3                                                                                | 14.3                                                                                |
| Actuated g/C Ratio         |                                                                                   | 0.45                                                                              |                                                                                   | 0.78                                                                              | 0.78                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 0.13                                                                                | 0.13                                                                                |
| v/c Ratio                  |                                                                                   | 0.85                                                                              |                                                                                   | 0.76                                                                              | 0.39                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 0.72                                                                                | 0.46                                                                                |



# Lanes, Volumes, Timings

## 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

07/05/2022

| Lane Group                 | Ø1   | Ø3   |
|----------------------------|------|------|
| Lane Configurations        |      |      |
| Traffic Volume (vph)       |      |      |
| Future Volume (vph)        |      |      |
| Ideal Flow (vphpl)         |      |      |
| Storage Length (ft)        |      |      |
| Storage Lanes              |      |      |
| Taper Length (ft)          |      |      |
| Satd. Flow (prot)          |      |      |
| Flt Permitted              |      |      |
| Satd. Flow (perm)          |      |      |
| Right Turn on Red          |      |      |
| Satd. Flow (RTOR)          |      |      |
| Link Speed (mph)           |      |      |
| Link Distance (ft)         |      |      |
| Travel Time (s)            |      |      |
| Confl. Peds. (#/hr)        |      |      |
| Peak Hour Factor           |      |      |
| Heavy Vehicles (%)         |      |      |
| Shared Lane Traffic (%)    |      |      |
| Lane Group Flow (vph)      |      |      |
| Enter Blocked Intersection |      |      |
| Lane Alignment             |      |      |
| Median Width(ft)           |      |      |
| Link Offset(ft)            |      |      |
| Crosswalk Width(ft)        |      |      |
| Two way Left Turn Lane     |      |      |
| Headway Factor             |      |      |
| Turning Speed (mph)        |      |      |
| Turn Type                  |      |      |
| Protected Phases           | 1    | 3    |
| Permitted Phases           |      |      |
| Detector Phase             |      |      |
| Switch Phase               |      |      |
| Minimum Initial (s)        | 4.0  | 4.0  |
| Minimum Split (s)          | 9.0  | 9.0  |
| Total Split (s)            | 13.0 | 28.0 |
| Total Split (%)            | 12%  | 25%  |
| Maximum Green (s)          | 8.0  | 23.0 |
| Yellow Time (s)            | 3.5  | 3.5  |
| All-Red Time (s)           | 1.5  | 1.5  |
| Lost Time Adjust (s)       |      |      |
| Total Lost Time (s)        |      |      |
| Lead/Lag                   | Lead |      |
| Lead-Lag Optimize?         | Yes  |      |
| Vehicle Extension (s)      | 3.0  | 3.0  |
| Recall Mode                | None | None |
| Act Effect Green (s)       |      |      |
| Actuated g/C Ratio         |      |      |
| v/c Ratio                  |      |      |



# Lanes, Volumes, Timings

## 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Control Delay           |                                                                                   | 34.0                                                                              |                                                                                   | 30.8                                                                              | 1.0                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 64.0                                                                                | 11.6                                                                                |
| Queue Delay             |                                                                                   | 0.8                                                                               |                                                                                   | 31.3                                                                              | 0.8                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 27.8                                                                                | 0.0                                                                                 |
| Total Delay             |                                                                                   | 34.8                                                                              |                                                                                   | 62.0                                                                              | 1.8                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 91.9                                                                                | 11.6                                                                                |
| LOS                     |                                                                                   | C                                                                                 |                                                                                   | E                                                                                 | A                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | F                                                                                   | B                                                                                   |
| Approach Delay          |                                                                                   | 34.8                                                                              |                                                                                   |                                                                                   | 17.5                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 52.9                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | B                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Queue Length 50th (ft)  |                                                                                   | 450                                                                               |                                                                                   | 166                                                                               | 17                                                                                |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 110                                                                                 | 0                                                                                   |
| Queue Length 95th (ft)  |                                                                                   | #607                                                                              |                                                                                   | m201                                                                              | m21                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | #188                                                                                | 48                                                                                  |
| Internal Link Dist (ft) |                                                                                   | 623                                                                               |                                                                                   |                                                                                   | 280                                                                               |                                                                                   |                                                                                    | 542                                                                                 |                                                                                     |                                                                                     | 425                                                                                 |                                                                                     |
| Turn Bay Length (ft)    |                                                                                   |                                                                                   |                                                                                   | 150                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 125                                                                                 |
| Base Capacity (vph)     |                                                                                   | 1557                                                                              |                                                                                   | 606                                                                               | 2817                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 239                                                                                 | 348                                                                                 |
| Starvation Cap Reductn  |                                                                                   | 0                                                                                 |                                                                                   | 236                                                                               | 1327                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 0                                                                                   | 0                                                                                   |
| Spillback Cap Reductn   |                                                                                   | 64                                                                                |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 71                                                                                  | 0                                                                                   |
| Storage Cap Reductn     |                                                                                   | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 0                                                                                   | 0                                                                                   |
| Reduced v/c Ratio       |                                                                                   | 0.89                                                                              |                                                                                   | 1.03                                                                              | 0.72                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 0.98                                                                                | 0.45                                                                                |

### Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 8 (7%), Referenced to phase 2:EBT and 6:WBTL, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 28.6

Intersection LOS: C

Intersection Capacity Utilization 75.6%

ICU Level of Service D

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

|                                                                                     |                                                                                     |                                                                                     |                                                                                       |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  |  |  |  |
| Ø1                                                                                  | Ø2 (R)                                                                              | Ø3                                                                                  | Ø4                                                                                    |
| 13 s                                                                                | 50 s                                                                                | 28 s                                                                                | 19 s                                                                                  |
|  |  |                                                                                     |                                                                                       |
| Ø6 (R)                                                                              |                                                                                     |                                                                                     |                                                                                       |
| 91 s                                                                                |                                                                                     |                                                                                     |                                                                                       |



## Lanes, Volumes, Timings

### 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

07/05/2022

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| Lane Group | Ø1 | Ø3 |
|------------|----|----|
|------------|----|----|

---

Control Delay

Queue Delay

Total Delay

LOS

Approach Delay

Approach LOS

Queue Length 50th (ft)

Queue Length 95th (ft)

Internal Link Dist (ft)

Turn Bay Length (ft)

Base Capacity (vph)

Starvation Cap Reductn

Spillback Cap Reductn

Storage Cap Reductn

Reduced v/c Ratio

Intersection Summary

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# Lanes, Volumes, Timings

## 3: I-81 NB Offramp/Pardee Road & Route 31

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |  |  |                                                                                   |                                                                                   |  |                                                                                   |  |  |  |                                                                                     |                                                                                     |  |
| Traffic Volume (vph)       | 268                                                                               | 841                                                                               | 0                                                                                 | 0                                                                                 | 928                                                                               | 258                                                                               | 342                                                                               | 118                                                                                 | 577                                                                                 | 0                                                                                   | 0                                                                                   | 127                                                                                 |
| Future Volume (vph)        | 268                                                                               | 841                                                                               | 0                                                                                 | 0                                                                                 | 928                                                                               | 258                                                                               | 342                                                                               | 118                                                                                 | 577                                                                                 | 0                                                                                   | 0                                                                                   | 127                                                                                 |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 85                                                                                |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 310                                                                               |                                                                                     | 100                                                                                 | 0                                                                                   |                                                                                     | 0                                                                                   |
| Storage Lanes              | 1                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                     | 1                                                                                   | 0                                                                                   |                                                                                     | 1                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 1770                                                                              | 3539                                                                              | 0                                                                                 | 0                                                                                 | 3406                                                                              | 0                                                                                 | 1752                                                                              | 1845                                                                                | 1568                                                                                | 0                                                                                   | 0                                                                                   | 1596                                                                                |
| Flt Permitted              | 0.097                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.950                                                                             |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Satd. Flow (perm)          | 181                                                                               | 3539                                                                              | 0                                                                                 | 0                                                                                 | 3406                                                                              | 0                                                                                 | 1752                                                                              | 1845                                                                                | 1568                                                                                | 0                                                                                   | 0                                                                                   | 1596                                                                                |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 31                                                                                |                                                                                   |                                                                                   |                                                                                     | 97                                                                                  |                                                                                     |                                                                                     | 134                                                                                 |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 40                                                                                  |                                                                                     |                                                                                     | 55                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 360                                                                               |                                                                                   |                                                                                   | 1082                                                                              |                                                                                   |                                                                                   | 639                                                                                 |                                                                                     |                                                                                     | 500                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 7.0                                                                               |                                                                                   |                                                                                   | 21.1                                                                              |                                                                                   |                                                                                   | 10.9                                                                                |                                                                                     |                                                                                     | 6.2                                                                                 |                                                                                     |
| Confl. Peds. (#/hr)        | 1                                                                                 |                                                                                   | 2                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Peak Hour Factor           | 0.84                                                                              | 0.84                                                                              | 0.84                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.84                                                                              | 0.84                                                                                | 0.84                                                                                | 0.75                                                                                | 0.75                                                                                | 0.75                                                                                |
| Heavy Vehicles (%)         | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 3%                                                                                | 3%                                                                                  | 3%                                                                                  | 3%                                                                                  | 3%                                                                                  | 3%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 319                                                                               | 1001                                                                              | 0                                                                                 | 0                                                                                 | 1289                                                                              | 0                                                                                 | 407                                                                               | 140                                                                                 | 687                                                                                 | 0                                                                                   | 0                                                                                   | 169                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                  |                                                                                     |                                                                                     | 12                                                                                  |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | pm+pt                                                                             | NA                                                                                |                                                                                   |                                                                                   | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                  | Perm                                                                                |                                                                                     |                                                                                     | Over                                                                                |
| Protected Phases           | 5                                                                                 | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     | 5                                                                                   |
| Permitted Phases           | 2                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 8                                                                                 |                                                                                     | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Detector Phase             | 5                                                                                 | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   | 8                                                                                 | 8                                                                                   | 8                                                                                   |                                                                                     |                                                                                     | 5                                                                                   |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 4.0                                                                               | 12.0                                                                              |                                                                                   |                                                                                   | 12.0                                                                              |                                                                                   | 6.0                                                                               | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |                                                                                     | 4.0                                                                                 |
| Minimum Split (s)          | 9.0                                                                               | 17.5                                                                              |                                                                                   |                                                                                   | 17.5                                                                              |                                                                                   | 12.0                                                                              | 12.0                                                                                | 12.0                                                                                |                                                                                     |                                                                                     | 9.0                                                                                 |
| Total Split (s)            | 31.0                                                                              | 66.0                                                                              |                                                                                   |                                                                                   | 35.0                                                                              |                                                                                   | 44.0                                                                              | 44.0                                                                                | 44.0                                                                                |                                                                                     |                                                                                     | 31.0                                                                                |
| Total Split (%)            | 28.2%                                                                             | 60.0%                                                                             |                                                                                   |                                                                                   | 31.8%                                                                             |                                                                                   | 40.0%                                                                             | 40.0%                                                                               | 40.0%                                                                               |                                                                                     |                                                                                     | 28.2%                                                                               |
| Maximum Green (s)          | 26.0                                                                              | 60.5                                                                              |                                                                                   |                                                                                   | 29.5                                                                              |                                                                                   | 38.0                                                                              | 38.0                                                                                | 38.0                                                                                |                                                                                     |                                                                                     | 26.0                                                                                |
| Yellow Time (s)            | 3.0                                                                               | 3.5                                                                               |                                                                                   |                                                                                   | 3.5                                                                               |                                                                                   | 4.0                                                                               | 4.0                                                                                 | 4.0                                                                                 |                                                                                     |                                                                                     | 3.0                                                                                 |
| All-Red Time (s)           | 2.0                                                                               | 2.0                                                                               |                                                                                   |                                                                                   | 2.0                                                                               |                                                                                   | 2.0                                                                               | 2.0                                                                                 | 2.0                                                                                 |                                                                                     |                                                                                     | 2.0                                                                                 |
| Lost Time Adjust (s)       | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |                                                                                     | 0.0                                                                                 |
| Total Lost Time (s)        | 5.0                                                                               | 5.5                                                                               |                                                                                   |                                                                                   | 5.5                                                                               |                                                                                   | 6.0                                                                               | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |                                                                                     | 5.0                                                                                 |
| Lead/Lag                   | Lead                                                                              |                                                                                   |                                                                                   |                                                                                   | Lag                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | Lead                                                                                |
| Lead-Lag Optimize?         | Yes                                                                               |                                                                                   |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | Yes                                                                                 |
| Vehicle Extension (s)      | 3.0                                                                               | 3.0                                                                               |                                                                                   |                                                                                   | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |                                                                                     | 3.0                                                                                 |
| Recall Mode                | None                                                                              | C-Min                                                                             |                                                                                   |                                                                                   | C-Min                                                                             |                                                                                   | None                                                                              | None                                                                                | None                                                                                |                                                                                     |                                                                                     | None                                                                                |
| Act Effct Green (s)        | 61.0                                                                              | 60.5                                                                              |                                                                                   |                                                                                   | 36.1                                                                              |                                                                                   | 38.0                                                                              | 38.0                                                                                | 38.0                                                                                |                                                                                     |                                                                                     | 19.4                                                                                |
| Actuated g/C Ratio         | 0.55                                                                              | 0.55                                                                              |                                                                                   |                                                                                   | 0.33                                                                              |                                                                                   | 0.35                                                                              | 0.35                                                                                | 0.35                                                                                |                                                                                     |                                                                                     | 0.18                                                                                |
| v/c Ratio                  | 0.84                                                                              | 0.51                                                                              |                                                                                   |                                                                                   | 1.13                                                                              |                                                                                   | 0.67                                                                              | 0.22                                                                                | 1.14                                                                                |                                                                                     |                                                                                     | 0.43                                                                                |



# Lanes, Volumes, Timings

## 3: I-81 NB Offramp/Pardee Road & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Control Delay           | 48.1                                                                              | 26.2                                                                              |                                                                                   |                                                                                   | 105.7                                                                             |                                                                                   | 37.3                                                                              | 26.7                                                                                | 110.0                                                                               |                                                                                     |                                                                                     | 13.5                                                                                |
| Queue Delay             | 1.1                                                                               | 15.5                                                                              |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   | 0.2                                                                               | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |                                                                                     | 0.0                                                                                 |
| Total Delay             | 49.2                                                                              | 41.7                                                                              |                                                                                   |                                                                                   | 105.7                                                                             |                                                                                   | 37.5                                                                              | 26.7                                                                                | 110.0                                                                               |                                                                                     |                                                                                     | 13.5                                                                                |
| LOS                     | D                                                                                 | D                                                                                 |                                                                                   |                                                                                   | F                                                                                 |                                                                                   | D                                                                                 | C                                                                                   | F                                                                                   |                                                                                     |                                                                                     | B                                                                                   |
| Approach Delay          |                                                                                   | 43.5                                                                              |                                                                                   |                                                                                   | 105.7                                                                             |                                                                                   |                                                                                   | 76.7                                                                                |                                                                                     |                                                                                     | 13.5                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | F                                                                                 |                                                                                   |                                                                                   | E                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 193                                                                               | 292                                                                               |                                                                                   |                                                                                   | ~554                                                                              |                                                                                   | 243                                                                               | 69                                                                                  | ~520                                                                                |                                                                                     |                                                                                     | 21                                                                                  |
| Queue Length 95th (ft)  | m235                                                                              | 314                                                                               |                                                                                   |                                                                                   | #770                                                                              |                                                                                   | 322                                                                               | 109                                                                                 | #667                                                                                |                                                                                     |                                                                                     | 48                                                                                  |
| Internal Link Dist (ft) |                                                                                   | 280                                                                               |                                                                                   |                                                                                   | 1002                                                                              |                                                                                   |                                                                                   | 559                                                                                 |                                                                                     |                                                                                     | 420                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 85                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 310                                                                               |                                                                                     | 100                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| Base Capacity (vph)     | 475                                                                               | 1946                                                                              |                                                                                   |                                                                                   | 1138                                                                              |                                                                                   | 605                                                                               | 637                                                                                 | 605                                                                                 |                                                                                     |                                                                                     | 479                                                                                 |
| Starvation Cap Reductn  | 42                                                                                | 946                                                                               |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   | 16                                                                                | 0                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |
| Reduced v/c Ratio       | 0.74                                                                              | 1.00                                                                              |                                                                                   |                                                                                   | 1.13                                                                              |                                                                                   | 0.69                                                                              | 0.22                                                                                | 1.14                                                                                |                                                                                     |                                                                                     | 0.36                                                                                |

### Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 87 (79%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.14

Intersection Signal Delay: 72.4

Intersection LOS: E

Intersection Capacity Utilization 81.5%

ICU Level of Service D

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

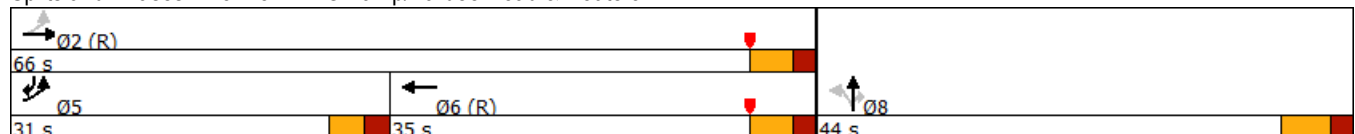
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: I-81 NB Offramp/Pardee Road & Route 31





# Lanes, Volumes, Timings

## 4: Route 31 & Lakeshore Road

07/05/2022

|                            |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | WBT                                                                               | WBR                                                                               | SBL                                                                               | SBR                                                                               |
| Lane Configurations        |  |  |  |                                                                                   |  |                                                                                   |
| Traffic Volume (vph)       | 529                                                                               | 889                                                                               | 827                                                                               | 1                                                                                 | 0                                                                                 | 359                                                                               |
| Future Volume (vph)        | 529                                                                               | 889                                                                               | 827                                                                               | 1                                                                                 | 0                                                                                 | 359                                                                               |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Storage Length (ft)        | 225                                                                               |                                                                                   |                                                                                   | 0                                                                                 | 0                                                                                 | 0                                                                                 |
| Storage Lanes              | 1                                                                                 |                                                                                   |                                                                                   | 0                                                                                 | 1                                                                                 | 0                                                                                 |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |
| Satd. Flow (prot)          | 1787                                                                              | 3574                                                                              | 1863                                                                              | 0                                                                                 | 1611                                                                              | 0                                                                                 |
| Flt Permitted              | 0.950                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Satd. Flow (perm)          | 1787                                                                              | 3574                                                                              | 1863                                                                              | 0                                                                                 | 1611                                                                              | 0                                                                                 |
| Link Speed (mph)           |                                                                                   | 35                                                                                | 35                                                                                |                                                                                   | 35                                                                                |                                                                                   |
| Link Distance (ft)         |                                                                                   | 1082                                                                              | 959                                                                               |                                                                                   | 962                                                                               |                                                                                   |
| Travel Time (s)            |                                                                                   | 21.1                                                                              | 18.7                                                                              |                                                                                   | 18.7                                                                              |                                                                                   |
| Peak Hour Factor           | 0.92                                                                              | 0.92                                                                              | 0.93                                                                              | 0.93                                                                              | 0.91                                                                              | 0.91                                                                              |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)      | 575                                                                               | 966                                                                               | 890                                                                               | 0                                                                                 | 395                                                                               | 0                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment             | Left                                                                              | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Right                                                                             |
| Median Width(ft)           |                                                                                   | 12                                                                                | 12                                                                                |                                                                                   | 12                                                                                |                                                                                   |
| Link Offset(ft)            |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 |                                                                                   |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                | 16                                                                                |                                                                                   | 16                                                                                |                                                                                   |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (mph)        | 15                                                                                |                                                                                   |                                                                                   | 9                                                                                 | 15                                                                                | 9                                                                                 |
| Sign Control               |                                                                                   | Free                                                                              | Free                                                                              |                                                                                   | Stop                                                                              |                                                                                   |

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 105.1%

ICU Level of Service G

Analysis Period (min) 15



HCM 6th TWSC  
4: Route 31 & Lakeshore Road

07/05/2022

Intersection

| Int Delay, s/veh         | 23.1 |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Movement                 | EBL  | EBT  | WBT  | WBR  | SBL  | SBR  |
| Lane Configurations      | ↰    | ↗↗   | ↗    |      | ↰    |      |
| Traffic Vol, veh/h       | 529  | 889  | 827  | 1    | 0    | 359  |
| Future Vol, veh/h        | 529  | 889  | 827  | 1    | 0    | 359  |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | 225  | -    | -    | -    | 0    | -    |
| Veh in Median Storage, # | -    | 0    | 0    | -    | 0    | -    |
| Grade, %                 | -    | 0    | 0    | -    | 0    | -    |
| Peak Hour Factor         | 92   | 92   | 93   | 93   | 91   | 91   |
| Heavy Vehicles, %        | 1    | 1    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 575  | 966  | 889  | 1    | 0    | 395  |

| Major/Minor          | Major1 | Major2 | Minor2        |
|----------------------|--------|--------|---------------|
| Conflicting Flow All | 890    | 0      | 0 2523 890    |
| Stage 1              | -      | -      | - 890 -       |
| Stage 2              | -      | -      | - 1633 -      |
| Critical Hdwy        | 4.115  | -      | - 6.63 6.23   |
| Critical Hdwy Stg 1  | -      | -      | - 5.43 -      |
| Critical Hdwy Stg 2  | -      | -      | - 5.83 -      |
| Follow-up Hdwy       | 2.2095 | -      | - 3.519 3.319 |
| Pot Cap-1 Maneuver   | 765    | -      | - 26 ~ 341    |
| Stage 1              | -      | -      | - 400 -       |
| Stage 2              | -      | -      | - 145 -       |
| Platoon blocked, %   | -      | -      | -             |
| Mov Cap-1 Maneuver   | 765    | -      | - 6 ~ 341     |
| Mov Cap-2 Maneuver   | -      | -      | - 6 -         |
| Stage 1              | -      | -      | - 99 -        |
| Stage 2              | -      | -      | - 145 -       |

| Approach             | EB  | WB | SB  |
|----------------------|-----|----|-----|
| HCM Control Delay, s | 8.4 | 0  | 133 |
| HCM LOS              |     |    | F   |

| Minor Lane/Major Mvmt | EBL   | EBT | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-----|-------|
| Capacity (veh/h)      | 765   | -   | -   | -   | 341   |
| HCM Lane V/C Ratio    | 0.752 | -   | -   | -   | 1.157 |
| HCM Control Delay (s) | 22.5  | -   | -   | -   | 133   |
| HCM Lane LOS          | C     | -   | -   | -   | F     |
| HCM 95th %tile Q(veh) | 7     | -   | -   | -   | 16    |

Notes

~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon



Lanes, Volumes, Timings  
5: South Bay Road & Route 31

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (vph)       | 58                                                                                | 421                                                                               | 106                                                                               | 129                                                                               | 328                                                                               | 18                                                                                | 72                                                                                | 315                                                                                 | 187                                                                                 | 8                                                                                   | 162                                                                                 | 49                                                                                  |
| Future Volume (vph)        | 58                                                                                | 421                                                                               | 106                                                                               | 129                                                                               | 328                                                                               | 18                                                                                | 72                                                                                | 315                                                                                 | 187                                                                                 | 8                                                                                   | 162                                                                                 | 49                                                                                  |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Satd. Flow (prot)          | 0                                                                                 | 1809                                                                              | 0                                                                                 | 0                                                                                 | 1812                                                                              | 0                                                                                 | 0                                                                                 | 1770                                                                                | 0                                                                                   | 0                                                                                   | 1795                                                                                | 0                                                                                   |
| Flt Permitted              |                                                                                   | 0.907                                                                             |                                                                                   |                                                                                   | 0.650                                                                             |                                                                                   |                                                                                   | 0.908                                                                               |                                                                                     |                                                                                     | 0.972                                                                               |                                                                                     |
| Satd. Flow (perm)          | 0                                                                                 | 1649                                                                              | 0                                                                                 | 0                                                                                 | 1193                                                                              | 0                                                                                 | 0                                                                                 | 1617                                                                                | 0                                                                                   | 0                                                                                   | 1748                                                                                | 0                                                                                   |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   | 21                                                                                |                                                                                   |                                                                                   | 4                                                                                 |                                                                                   |                                                                                   | 37                                                                                  |                                                                                     |                                                                                     | 22                                                                                  |                                                                                     |
| Link Speed (mph)           |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 55                                                                                |                                                                                   |                                                                                   | 45                                                                                  |                                                                                     |                                                                                     | 45                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 788                                                                               |                                                                                   |                                                                                   | 825                                                                               |                                                                                   |                                                                                   | 794                                                                                 |                                                                                     |                                                                                     | 652                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 11.9                                                                              |                                                                                   |                                                                                   | 10.2                                                                              |                                                                                   |                                                                                   | 12.0                                                                                |                                                                                     |                                                                                     | 9.9                                                                                 |                                                                                     |
| Confl. Peds. (#/hr)        |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 1                                                                                   |
| Peak Hour Factor           | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.86                                                                              | 0.86                                                                                | 0.86                                                                                | 0.85                                                                                | 0.85                                                                                | 0.85                                                                                |
| Heavy Vehicles (%)         | 2%                                                                                | 2%                                                                                | 2%                                                                                | 3%                                                                                | 3%                                                                                | 3%                                                                                | 2%                                                                                | 2%                                                                                  | 2%                                                                                  | 2%                                                                                  | 2%                                                                                  | 2%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 0                                                                                 | 636                                                                               | 0                                                                                 | 0                                                                                 | 511                                                                               | 0                                                                                 | 0                                                                                 | 667                                                                                 | 0                                                                                   | 0                                                                                   | 258                                                                                 | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                  |                                                                                     | Perm                                                                                | NA                                                                                  |                                                                                     |
| Protected Phases           |                                                                                   | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                   |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |
| Permitted Phases           | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |                                                                                     |
| Detector Phase             | 2                                                                                 | 2                                                                                 |                                                                                   | 6                                                                                 | 6                                                                                 |                                                                                   | 8                                                                                 | 8                                                                                   |                                                                                     | 4                                                                                   | 4                                                                                   |                                                                                     |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 15.0                                                                              | 15.0                                                                              |                                                                                   | 15.0                                                                              | 15.0                                                                              |                                                                                   | 10.0                                                                              | 10.0                                                                                |                                                                                     | 10.0                                                                                | 10.0                                                                                |                                                                                     |
| Minimum Split (s)          | 22.8                                                                              | 22.8                                                                              |                                                                                   | 22.8                                                                              | 22.8                                                                              |                                                                                   | 16.8                                                                              | 16.8                                                                                |                                                                                     | 16.8                                                                                | 16.8                                                                                |                                                                                     |
| Total Split (s)            | 40.0                                                                              | 40.0                                                                              |                                                                                   | 40.0                                                                              | 40.0                                                                              |                                                                                   | 30.0                                                                              | 30.0                                                                                |                                                                                     | 30.0                                                                                | 30.0                                                                                |                                                                                     |
| Total Split (%)            | 57.1%                                                                             | 57.1%                                                                             |                                                                                   | 57.1%                                                                             | 57.1%                                                                             |                                                                                   | 42.9%                                                                             | 42.9%                                                                               |                                                                                     | 42.9%                                                                               | 42.9%                                                                               |                                                                                     |
| Maximum Green (s)          | 32.2                                                                              | 32.2                                                                              |                                                                                   | 32.2                                                                              | 32.2                                                                              |                                                                                   | 23.2                                                                              | 23.2                                                                                |                                                                                     | 23.2                                                                                | 23.2                                                                                |                                                                                     |
| Yellow Time (s)            | 4.9                                                                               | 4.9                                                                               |                                                                                   | 4.9                                                                               | 4.9                                                                               |                                                                                   | 4.9                                                                               | 4.9                                                                                 |                                                                                     | 4.9                                                                                 | 4.9                                                                                 |                                                                                     |
| All-Red Time (s)           | 2.9                                                                               | 2.9                                                                               |                                                                                   | 2.9                                                                               | 2.9                                                                               |                                                                                   | 1.9                                                                               | 1.9                                                                                 |                                                                                     | 1.9                                                                                 | 1.9                                                                                 |                                                                                     |
| Lost Time Adjust (s)       |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                                 |                                                                                     |                                                                                     | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)        |                                                                                   | 7.8                                                                               |                                                                                   |                                                                                   | 7.8                                                                               |                                                                                   |                                                                                   | 6.8                                                                                 |                                                                                     |                                                                                     | 6.8                                                                                 |                                                                                     |
| Lead/Lag                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?         |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Vehicle Extension (s)      | 6.0                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                               | 6.0                                                                                 |                                                                                     | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |
| Minimum Gap (s)            | 2.0                                                                               | 2.0                                                                               |                                                                                   | 2.0                                                                               | 2.0                                                                               |                                                                                   | 2.0                                                                               | 2.0                                                                                 |                                                                                     | 2.0                                                                                 | 2.0                                                                                 |                                                                                     |
| Time Before Reduce (s)     | 10.0                                                                              | 10.0                                                                              |                                                                                   | 10.0                                                                              | 10.0                                                                              |                                                                                   | 10.0                                                                              | 10.0                                                                                |                                                                                     | 10.0                                                                                | 10.0                                                                                |                                                                                     |
| Time To Reduce (s)         | 15.0                                                                              | 15.0                                                                              |                                                                                   | 15.0                                                                              | 15.0                                                                              |                                                                                   | 15.0                                                                              | 15.0                                                                                |                                                                                     | 15.0                                                                                | 15.0                                                                                |                                                                                     |
| Recall Mode                | Max                                                                               | Max                                                                               |                                                                                   | Max                                                                               | Max                                                                               |                                                                                   | Max                                                                               | Max                                                                                 |                                                                                     | Max                                                                                 | Max                                                                                 |                                                                                     |
| Act Effect Green (s)       |                                                                                   | 32.2                                                                              |                                                                                   |                                                                                   | 32.2                                                                              |                                                                                   |                                                                                   | 23.2                                                                                |                                                                                     |                                                                                     | 23.2                                                                                |                                                                                     |
| Actuated g/C Ratio         |                                                                                   | 0.46                                                                              |                                                                                   |                                                                                   | 0.46                                                                              |                                                                                   |                                                                                   | 0.33                                                                                |                                                                                     |                                                                                     | 0.33                                                                                |                                                                                     |
| v/c Ratio                  |                                                                                   | 0.83                                                                              |                                                                                   |                                                                                   | 0.93                                                                              |                                                                                   |                                                                                   | 1.19                                                                                |                                                                                     |                                                                                     | 0.43                                                                                |                                                                                     |



# Lanes, Volumes, Timings

## 5: South Bay Road & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Control Delay           |                                                                                   | 27.5                                                                              |                                                                                   |                                                                                   | 45.2                                                                              |                                                                                   |                                                                                    | 127.2                                                                               |                                                                                     |                                                                                     | 19.4                                                                                |                                                                                     |
| Queue Delay             |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                    | 0.0                                                                                 |                                                                                     |                                                                                     | 0.0                                                                                 |                                                                                     |
| Total Delay             |                                                                                   | 27.5                                                                              |                                                                                   |                                                                                   | 45.2                                                                              |                                                                                   |                                                                                    | 127.2                                                                               |                                                                                     |                                                                                     | 19.4                                                                                |                                                                                     |
| LOS                     |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                    | F                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| Approach Delay          |                                                                                   | 27.5                                                                              |                                                                                   |                                                                                   | 45.2                                                                              |                                                                                   |                                                                                    | 127.2                                                                               |                                                                                     |                                                                                     | 19.4                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                    | F                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| Queue Length 50th (ft)  |                                                                                   | 220                                                                               |                                                                                   |                                                                                   | 196                                                                               |                                                                                   |                                                                                    | ~346                                                                                |                                                                                     |                                                                                     | 78                                                                                  |                                                                                     |
| Queue Length 95th (ft)  |                                                                                   | #415                                                                              |                                                                                   |                                                                                   | #393                                                                              |                                                                                   |                                                                                    | #505                                                                                |                                                                                     |                                                                                     | 128                                                                                 |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 708                                                                               |                                                                                   |                                                                                   | 745                                                                               |                                                                                   |                                                                                    | 714                                                                                 |                                                                                     |                                                                                     | 572                                                                                 |                                                                                     |
| Turn Bay Length (ft)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Base Capacity (vph)     |                                                                                   | 769                                                                               |                                                                                   |                                                                                   | 550                                                                               |                                                                                   |                                                                                    | 560                                                                                 |                                                                                     |                                                                                     | 594                                                                                 |                                                                                     |
| Starvation Cap Reductn  |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                    | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                    | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                    | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       |                                                                                   | 0.83                                                                              |                                                                                   |                                                                                   | 0.93                                                                              |                                                                                   |                                                                                    | 1.19                                                                                |                                                                                     |                                                                                     | 0.43                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Natural Cycle: 100

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 1.19

Intersection Signal Delay: 62.9

Intersection LOS: E

Intersection Capacity Utilization 114.3%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 5: South Bay Road & Route 31

|                                                                                        |                                                                                        |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
|  Ø2 |  Ø4 |
| 40 s                                                                                   | 30 s                                                                                   |
|  Ø6 |  Ø8 |
| 40 s                                                                                   | 30 s                                                                                   |



Lanes, Volumes, Timings  
6: Cicero Center Road & Route 31

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (vph)       | 67                                                                                | 435                                                                               | 22                                                                                | 6                                                                                 | 381                                                                               | 15                                                                                | 18                                                                                | 35                                                                                  | 13                                                                                  | 12                                                                                  | 13                                                                                  | 35                                                                                  |
| Future Volume (vph)        | 67                                                                                | 435                                                                               | 22                                                                                | 6                                                                                 | 381                                                                               | 15                                                                                | 18                                                                                | 35                                                                                  | 13                                                                                  | 12                                                                                  | 13                                                                                  | 35                                                                                  |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Satd. Flow (prot)          | 0                                                                                 | 1859                                                                              | 0                                                                                 | 0                                                                                 | 1870                                                                              | 0                                                                                 | 0                                                                                 | 1805                                                                                | 0                                                                                   | 0                                                                                   | 1717                                                                                | 0                                                                                   |
| Flt Permitted              |                                                                                   | 0.901                                                                             |                                                                                   |                                                                                   | 0.992                                                                             |                                                                                   |                                                                                   | 0.882                                                                               |                                                                                     |                                                                                     | 0.905                                                                               |                                                                                     |
| Satd. Flow (perm)          | 0                                                                                 | 1685                                                                              | 0                                                                                 | 0                                                                                 | 1857                                                                              | 0                                                                                 | 0                                                                                 | 1614                                                                                | 0                                                                                   | 0                                                                                   | 1570                                                                                | 0                                                                                   |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 5                                                                                 |                                                                                   |                                                                                   | 18                                                                                  |                                                                                     |                                                                                     | 43                                                                                  |                                                                                     |
| Link Speed (mph)           |                                                                                   | 55                                                                                |                                                                                   |                                                                                   | 55                                                                                |                                                                                   |                                                                                   | 55                                                                                  |                                                                                     |                                                                                     | 55                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 583                                                                               |                                                                                   |                                                                                   | 608                                                                               |                                                                                   |                                                                                   | 500                                                                                 |                                                                                     |                                                                                     | 505                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 7.2                                                                               |                                                                                   |                                                                                   | 7.5                                                                               |                                                                                   |                                                                                   | 6.2                                                                                 |                                                                                     |                                                                                     | 6.3                                                                                 |                                                                                     |
| Peak Hour Factor           | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.73                                                                              | 0.73                                                                                | 0.73                                                                                | 0.82                                                                                | 0.82                                                                                | 0.82                                                                                |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 0                                                                                 | 595                                                                               | 0                                                                                 | 0                                                                                 | 432                                                                               | 0                                                                                 | 0                                                                                 | 91                                                                                  | 0                                                                                   | 0                                                                                   | 74                                                                                  | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                  |                                                                                     | Perm                                                                                | NA                                                                                  |                                                                                     |
| Protected Phases           |                                                                                   | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                   |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |
| Permitted Phases           | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |                                                                                     |
| Detector Phase             | 2                                                                                 | 2                                                                                 |                                                                                   | 6                                                                                 | 6                                                                                 |                                                                                   | 8                                                                                 | 8                                                                                   |                                                                                     | 4                                                                                   | 4                                                                                   |                                                                                     |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 15.0                                                                              | 15.0                                                                              |                                                                                   | 15.0                                                                              | 15.0                                                                              |                                                                                   | 7.0                                                                               | 7.0                                                                                 |                                                                                     | 7.0                                                                                 | 7.0                                                                                 |                                                                                     |
| Minimum Split (s)          | 21.0                                                                              | 21.0                                                                              |                                                                                   | 21.0                                                                              | 21.0                                                                              |                                                                                   | 12.0                                                                              | 12.0                                                                                |                                                                                     | 12.0                                                                                | 12.0                                                                                |                                                                                     |
| Total Split (s)            | 30.0                                                                              | 30.0                                                                              |                                                                                   | 30.0                                                                              | 30.0                                                                              |                                                                                   | 20.0                                                                              | 20.0                                                                                |                                                                                     | 20.0                                                                                | 20.0                                                                                |                                                                                     |
| Total Split (%)            | 60.0%                                                                             | 60.0%                                                                             |                                                                                   | 60.0%                                                                             | 60.0%                                                                             |                                                                                   | 40.0%                                                                             | 40.0%                                                                               |                                                                                     | 40.0%                                                                               | 40.0%                                                                               |                                                                                     |
| Maximum Green (s)          | 24.0                                                                              | 24.0                                                                              |                                                                                   | 24.0                                                                              | 24.0                                                                              |                                                                                   | 15.0                                                                              | 15.0                                                                                |                                                                                     | 15.0                                                                                | 15.0                                                                                |                                                                                     |
| Yellow Time (s)            | 4.0                                                                               | 4.0                                                                               |                                                                                   | 4.0                                                                               | 4.0                                                                               |                                                                                   | 4.0                                                                               | 4.0                                                                                 |                                                                                     | 4.0                                                                                 | 4.0                                                                                 |                                                                                     |
| All-Red Time (s)           | 2.0                                                                               | 2.0                                                                               |                                                                                   | 2.0                                                                               | 2.0                                                                               |                                                                                   | 1.0                                                                               | 1.0                                                                                 |                                                                                     | 1.0                                                                                 | 1.0                                                                                 |                                                                                     |
| Lost Time Adjust (s)       |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                                 |                                                                                     |                                                                                     | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)        |                                                                                   | 6.0                                                                               |                                                                                   |                                                                                   | 6.0                                                                               |                                                                                   |                                                                                   | 5.0                                                                                 |                                                                                     |                                                                                     | 5.0                                                                                 |                                                                                     |
| Lead/Lag                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?         |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Vehicle Extension (s)      | 5.0                                                                               | 5.0                                                                               |                                                                                   | 5.0                                                                               | 5.0                                                                               |                                                                                   | 2.0                                                                               | 2.0                                                                                 |                                                                                     | 2.0                                                                                 | 2.0                                                                                 |                                                                                     |
| Recall Mode                | Max                                                                               | Max                                                                               |                                                                                   | Max                                                                               | Max                                                                               |                                                                                   | None                                                                              | None                                                                                |                                                                                     | None                                                                                | None                                                                                |                                                                                     |
| Act Effect Green (s)       |                                                                                   | 30.6                                                                              |                                                                                   |                                                                                   | 30.6                                                                              |                                                                                   |                                                                                   | 7.5                                                                                 |                                                                                     |                                                                                     | 7.5                                                                                 |                                                                                     |
| Actuated g/C Ratio         |                                                                                   | 0.74                                                                              |                                                                                   |                                                                                   | 0.74                                                                              |                                                                                   |                                                                                   | 0.18                                                                                |                                                                                     |                                                                                     | 0.18                                                                                |                                                                                     |
| v/c Ratio                  |                                                                                   | 0.48                                                                              |                                                                                   |                                                                                   | 0.32                                                                              |                                                                                   |                                                                                   | 0.30                                                                                |                                                                                     |                                                                                     | 0.23                                                                                |                                                                                     |
| Control Delay              |                                                                                   | 6.9                                                                               |                                                                                   |                                                                                   | 5.2                                                                               |                                                                                   |                                                                                   | 15.4                                                                                |                                                                                     |                                                                                     | 10.7                                                                                |                                                                                     |
| Queue Delay                |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                                 |                                                                                     |                                                                                     | 0.0                                                                                 |                                                                                     |
| Total Delay                |                                                                                   | 6.9                                                                               |                                                                                   |                                                                                   | 5.2                                                                               |                                                                                   |                                                                                   | 15.4                                                                                |                                                                                     |                                                                                     | 10.7                                                                                |                                                                                     |
| LOS                        |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | B                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |



# Lanes, Volumes, Timings

## 6: Cicero Center Road & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Approach Delay          |                                                                                   | 6.9                                                                               |                                                                                   |                                                                                   | 5.2                                                                               |                                                                                   |                                                                                   | 15.4                                                                                |                                                                                     |                                                                                     | 10.7                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | B                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| Queue Length 50th (ft)  |                                                                                   | 76                                                                                |                                                                                   |                                                                                   | 46                                                                                |                                                                                   |                                                                                   | 15                                                                                  |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Queue Length 95th (ft)  |                                                                                   | 164                                                                               |                                                                                   |                                                                                   | 101                                                                               |                                                                                   |                                                                                   | 34                                                                                  |                                                                                     |                                                                                     | 27                                                                                  |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 503                                                                               |                                                                                   |                                                                                   | 528                                                                               |                                                                                   |                                                                                   | 420                                                                                 |                                                                                     |                                                                                     | 425                                                                                 |                                                                                     |
| Turn Bay Length (ft)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Base Capacity (vph)     |                                                                                   | 1242                                                                              |                                                                                   |                                                                                   | 1368                                                                              |                                                                                   |                                                                                   | 598                                                                                 |                                                                                     |                                                                                     | 598                                                                                 |                                                                                     |
| Starvation Cap Reductn  |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       |                                                                                   | 0.48                                                                              |                                                                                   |                                                                                   | 0.32                                                                              |                                                                                   |                                                                                   | 0.15                                                                                |                                                                                     |                                                                                     | 0.12                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Cycle Length: 50

Actuated Cycle Length: 41.6

Natural Cycle: 40

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.48

Intersection Signal Delay: 7.2

Intersection Capacity Utilization 69.2%

Analysis Period (min) 15

Intersection LOS: A

ICU Level of Service C

Splits and Phases: 6: Cicero Center Road & Route 31

|                                                                                        |  |                                                                                        |
|----------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------|
|  Ø2 |  |  Ø4 |
| 30 s                                                                                   |  | 20 s                                                                                   |
|  Ø6 |  |  Ø8 |
| 30 s                                                                                   |  | 20 s                                                                                   |



Lanes, Volumes, Timings  
7: Route 31 & Lakeshore Road (East)

07/05/2022

|                            |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | WBT                                                                               | WBR                                                                               | SBL                                                                               | SBR                                                                               |
| Lane Configurations        |                                                                                   |  |  |                                                                                   |  |                                                                                   |
| Traffic Volume (vph)       | 45                                                                                | 439                                                                               | 366                                                                               | 48                                                                                | 41                                                                                | 21                                                                                |
| Future Volume (vph)        | 45                                                                                | 439                                                                               | 366                                                                               | 48                                                                                | 41                                                                                | 21                                                                                |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Satd. Flow (prot)          | 0                                                                                 | 1872                                                                              | 1851                                                                              | 0                                                                                 | 1737                                                                              | 0                                                                                 |
| Flt Permitted              |                                                                                   | 0.995                                                                             |                                                                                   |                                                                                   | 0.968                                                                             |                                                                                   |
| Satd. Flow (perm)          | 0                                                                                 | 1872                                                                              | 1851                                                                              | 0                                                                                 | 1737                                                                              | 0                                                                                 |
| Link Speed (mph)           |                                                                                   | 55                                                                                | 55                                                                                |                                                                                   | 35                                                                                |                                                                                   |
| Link Distance (ft)         |                                                                                   | 516                                                                               | 592                                                                               |                                                                                   | 420                                                                               |                                                                                   |
| Travel Time (s)            |                                                                                   | 6.4                                                                               | 7.3                                                                               |                                                                                   | 8.2                                                                               |                                                                                   |
| Peak Hour Factor           | 0.87                                                                              | 0.87                                                                              | 0.89                                                                              | 0.89                                                                              | 0.81                                                                              | 0.81                                                                              |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)      | 0                                                                                 | 557                                                                               | 465                                                                               | 0                                                                                 | 77                                                                                | 0                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment             | Left                                                                              | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Right                                                                             |
| Median Width(ft)           |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 12                                                                                |                                                                                   |
| Link Offset(ft)            |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 |                                                                                   |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                | 16                                                                                |                                                                                   | 16                                                                                |                                                                                   |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (mph)        | 15                                                                                |                                                                                   |                                                                                   | 9                                                                                 | 15                                                                                | 9                                                                                 |
| Sign Control               |                                                                                   | Free                                                                              | Free                                                                              |                                                                                   | Stop                                                                              |                                                                                   |

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 61.3%

ICU Level of Service B

Analysis Period (min) 15



HCM 6th TWSC  
7: Route 31 & Lakeshore Road (East)

07/05/2022

Intersection

Int Delay, s/veh 1.9

| Movement                 | EBL  | EBT                                                                               | WBT                                                                               | WBR  | SBL                                                                               | SBR  |
|--------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|------|
| Lane Configurations      |      |  |  |      |  |      |
| Traffic Vol, veh/h       | 45   | 439                                                                               | 366                                                                               | 48   | 41                                                                                | 21   |
| Future Vol, veh/h        | 45   | 439                                                                               | 366                                                                               | 48   | 41                                                                                | 21   |
| Conflicting Peds, #/hr   | 0    | 0                                                                                 | 0                                                                                 | 0    | 0                                                                                 | 0    |
| Sign Control             | Free | Free                                                                              | Free                                                                              | Free | Stop                                                                              | Stop |
| RT Channelized           | -    | None                                                                              | -                                                                                 | None | -                                                                                 | None |
| Storage Length           | -    | -                                                                                 | -                                                                                 | -    | 0                                                                                 | -    |
| Veh in Median Storage, # | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Grade, %                 | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Peak Hour Factor         | 87   | 87                                                                                | 89                                                                                | 89   | 81                                                                                | 81   |
| Heavy Vehicles, %        | 1    | 1                                                                                 | 1                                                                                 | 1    | 1                                                                                 | 1    |
| Mvmt Flow                | 52   | 505                                                                               | 411                                                                               | 54   | 51                                                                                | 26   |

| Major/Minor          | Major1 | Major2 | Minor2        |
|----------------------|--------|--------|---------------|
| Conflicting Flow All | 465    | 0      | 0 1047 438    |
| Stage 1              | -      | -      | - 438 -       |
| Stage 2              | -      | -      | - 609 -       |
| Critical Hdwy        | 4.11   | -      | - 6.41 6.21   |
| Critical Hdwy Stg 1  | -      | -      | - 5.41 -      |
| Critical Hdwy Stg 2  | -      | -      | - 5.41 -      |
| Follow-up Hdwy       | 2.209  | -      | - 3.509 3.309 |
| Pot Cap-1 Maneuver   | 1102   | -      | - 254 621     |
| Stage 1              | -      | -      | - 653 -       |
| Stage 2              | -      | -      | - 545 -       |
| Platoon blocked, %   | -      | -      | -             |
| Mov Cap-1 Maneuver   | 1102   | -      | - 237 621     |
| Mov Cap-2 Maneuver   | -      | -      | - 237 -       |
| Stage 1              | -      | -      | - 610 -       |
| Stage 2              | -      | -      | - 545 -       |

| Approach             | EB  | WB | SB   |
|----------------------|-----|----|------|
| HCM Control Delay, s | 0.8 | 0  | 21.1 |
| HCM LOS              |     |    | C    |

| Minor Lane/Major Mvmt | EBL   | EBT | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-----|-------|
| Capacity (veh/h)      | 1102  | -   | -   | -   | 300   |
| HCM Lane V/C Ratio    | 0.047 | -   | -   | -   | 0.255 |
| HCM Control Delay (s) | 8.4   | 0   | -   | -   | 21.1  |
| HCM Lane LOS          | A     | A   | -   | -   | C     |
| HCM 95th %tile Q(veh) | 0.1   | -   | -   | -   | 1     |



# Lanes, Volumes, Timings

## 8: Thompson Road & South Bay Road

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |  |  |                                                                                   |  |  |                                                                                   |                                                                                   |  |  |                                                                                     |  |  |
| Traffic Volume (vph)       | 292                                                                               | 360                                                                               | 2                                                                                 | 105                                                                               | 291                                                                               | 22                                                                                | 18                                                                                | 299                                                                                 | 217                                                                                 | 9                                                                                   | 139                                                                                 | 221                                                                                 |
| Future Volume (vph)        | 292                                                                               | 360                                                                               | 2                                                                                 | 105                                                                               | 291                                                                               | 22                                                                                | 18                                                                                | 299                                                                                 | 217                                                                                 | 9                                                                                   | 139                                                                                 | 221                                                                                 |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 300                                                                               |                                                                                   | 0                                                                                 | 250                                                                               |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                     | 210                                                                                 | 0                                                                                   |                                                                                     | 600                                                                                 |
| Storage Lanes              | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                     | 1                                                                                   | 0                                                                                   |                                                                                     | 1                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 1787                                                                              | 1879                                                                              | 0                                                                                 | 1787                                                                              | 1860                                                                              | 0                                                                                 | 0                                                                                 | 1857                                                                                | 1583                                                                                | 0                                                                                   | 1876                                                                                | 1599                                                                                |
| Flt Permitted              | 0.315                                                                             |                                                                                   |                                                                                   | 0.274                                                                             |                                                                                   |                                                                                   |                                                                                   | 0.977                                                                               |                                                                                     |                                                                                     | 0.969                                                                               |                                                                                     |
| Satd. Flow (perm)          | 593                                                                               | 1879                                                                              | 0                                                                                 | 515                                                                               | 1860                                                                              | 0                                                                                 | 0                                                                                 | 1820                                                                                | 1583                                                                                | 0                                                                                   | 1823                                                                                | 1599                                                                                |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 5                                                                                 |                                                                                   |                                                                                   |                                                                                     | 174                                                                                 |                                                                                     |                                                                                     | 231                                                                                 |
| Link Speed (mph)           |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 45                                                                                  |                                                                                     |                                                                                     | 45                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 1324                                                                              |                                                                                   |                                                                                   | 1155                                                                              |                                                                                   |                                                                                   | 1095                                                                                |                                                                                     |                                                                                     | 1033                                                                                |                                                                                     |
| Travel Time (s)            |                                                                                   | 20.1                                                                              |                                                                                   |                                                                                   | 17.5                                                                              |                                                                                   |                                                                                   | 16.6                                                                                |                                                                                     |                                                                                     | 15.7                                                                                |                                                                                     |
| Peak Hour Factor           | 0.84                                                                              | 0.84                                                                              | 0.84                                                                              | 0.80                                                                              | 0.80                                                                              | 0.80                                                                              | 0.94                                                                              | 0.94                                                                                | 0.94                                                                                | 0.84                                                                                | 0.84                                                                                | 0.84                                                                                |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 2%                                                                                | 2%                                                                                  | 2%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 348                                                                               | 431                                                                               | 0                                                                                 | 131                                                                               | 392                                                                               | 0                                                                                 | 0                                                                                 | 337                                                                                 | 231                                                                                 | 0                                                                                   | 176                                                                                 | 263                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                             | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                  | pm+ov                                                                               | Perm                                                                                | NA                                                                                  | pm+ov                                                                               |
| Protected Phases           | 7                                                                                 | 4                                                                                 |                                                                                   | 3                                                                                 | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                   | 3                                                                                   |                                                                                     | 6                                                                                   | 7                                                                                   |
| Permitted Phases           | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                 |                                                                                     | 2                                                                                   | 6                                                                                   |                                                                                     | 6                                                                                   |
| Detector Phase             | 7                                                                                 | 4                                                                                 |                                                                                   | 3                                                                                 | 8                                                                                 |                                                                                   | 2                                                                                 | 2                                                                                   | 3                                                                                   | 6                                                                                   | 6                                                                                   | 7                                                                                   |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 5.0                                                                               | 10.0                                                                              |                                                                                   | 5.0                                                                               | 5.0                                                                               |                                                                                   | 10.0                                                                              | 10.0                                                                                | 5.0                                                                                 | 10.0                                                                                | 10.0                                                                                | 5.0                                                                                 |
| Minimum Split (s)          | 12.0                                                                              | 17.0                                                                              |                                                                                   | 12.0                                                                              | 12.0                                                                              |                                                                                   | 16.5                                                                              | 16.5                                                                                | 12.0                                                                                | 16.5                                                                                | 16.5                                                                                | 12.0                                                                                |
| Total Split (s)            | 15.0                                                                              | 30.0                                                                              |                                                                                   | 15.0                                                                              | 30.0                                                                              |                                                                                   | 30.0                                                                              | 30.0                                                                                | 15.0                                                                                | 30.0                                                                                | 30.0                                                                                | 15.0                                                                                |
| Total Split (%)            | 20.0%                                                                             | 40.0%                                                                             |                                                                                   | 20.0%                                                                             | 40.0%                                                                             |                                                                                   | 40.0%                                                                             | 40.0%                                                                               | 20.0%                                                                               | 40.0%                                                                               | 40.0%                                                                               | 20.0%                                                                               |
| Maximum Green (s)          | 8.0                                                                               | 23.0                                                                              |                                                                                   | 8.0                                                                               | 23.0                                                                              |                                                                                   | 23.5                                                                              | 23.5                                                                                | 8.0                                                                                 | 23.5                                                                                | 23.5                                                                                | 8.0                                                                                 |
| Yellow Time (s)            | 4.0                                                                               | 4.0                                                                               |                                                                                   | 4.0                                                                               | 4.0                                                                               |                                                                                   | 3.5                                                                               | 3.5                                                                                 | 4.0                                                                                 | 3.5                                                                                 | 3.5                                                                                 | 4.0                                                                                 |
| All-Red Time (s)           | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |
| Lost Time Adjust (s)       | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                                 | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |
| Total Lost Time (s)        | 7.0                                                                               | 7.0                                                                               |                                                                                   | 7.0                                                                               | 7.0                                                                               |                                                                                   |                                                                                   | 6.5                                                                                 | 7.0                                                                                 |                                                                                     | 6.5                                                                                 | 7.0                                                                                 |
| Lead/Lag                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                              | Lag                                                                               |                                                                                   |                                                                                   |                                                                                     | Lead                                                                                |                                                                                     |                                                                                     | Lead                                                                                |
| Lead-Lag Optimize?         | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                               | Yes                                                                               |                                                                                   |                                                                                   |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Vehicle Extension (s)      | 3.0                                                                               | 2.0                                                                               |                                                                                   | 3.0                                                                               | 2.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |
| Recall Mode                | None                                                                              | Min                                                                               |                                                                                   | None                                                                              | Min                                                                               |                                                                                   | Max                                                                               | Max                                                                                 | None                                                                                | Max                                                                                 | Max                                                                                 | None                                                                                |
| Act Effct Green (s)        | 27.6                                                                              | 19.5                                                                              |                                                                                   | 26.6                                                                              | 19.1                                                                              |                                                                                   |                                                                                   | 23.6                                                                                | 37.7                                                                                |                                                                                     | 23.6                                                                                | 38.2                                                                                |
| Actuated g/C Ratio         | 0.39                                                                              | 0.27                                                                              |                                                                                   | 0.37                                                                              | 0.27                                                                              |                                                                                   |                                                                                   | 0.33                                                                                | 0.53                                                                                |                                                                                     | 0.33                                                                                | 0.54                                                                                |
| v/c Ratio                  | 0.96                                                                              | 0.84                                                                              |                                                                                   | 0.40                                                                              | 0.78                                                                              |                                                                                   |                                                                                   | 0.56                                                                                | 0.25                                                                                |                                                                                     | 0.29                                                                                | 0.27                                                                                |
| Control Delay              | 56.3                                                                              | 40.2                                                                              |                                                                                   | 14.4                                                                              | 35.6                                                                              |                                                                                   |                                                                                   | 24.9                                                                                | 3.9                                                                                 |                                                                                     | 20.4                                                                                | 3.0                                                                                 |



# Lanes, Volumes, Timings

## 8: Thompson Road & South Bay Road

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Queue Delay             | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                                 | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |
| Total Delay             | 56.3                                                                              | 40.2                                                                              |                                                                                   | 14.4                                                                              | 35.6                                                                              |                                                                                   |                                                                                   | 24.9                                                                                | 3.9                                                                                 |                                                                                     | 20.4                                                                                | 3.0                                                                                 |
| LOS                     | E                                                                                 | D                                                                                 |                                                                                   | B                                                                                 | D                                                                                 |                                                                                   |                                                                                   | C                                                                                   | A                                                                                   |                                                                                     | C                                                                                   | A                                                                                   |
| Approach Delay          |                                                                                   | 47.4                                                                              |                                                                                   |                                                                                   | 30.3                                                                              |                                                                                   |                                                                                   | 16.3                                                                                |                                                                                     |                                                                                     | 10.0                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | B                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 93                                                                                | 179                                                                               |                                                                                   | 30                                                                                | 157                                                                               |                                                                                   |                                                                                   | 126                                                                                 | 12                                                                                  |                                                                                     | 59                                                                                  | 7                                                                                   |
| Queue Length 95th (ft)  | #184                                                                              | 256                                                                               |                                                                                   | 51                                                                                | 213                                                                               |                                                                                   |                                                                                   | 213                                                                                 | 47                                                                                  |                                                                                     | 102                                                                                 | 34                                                                                  |
| Internal Link Dist (ft) |                                                                                   | 1244                                                                              |                                                                                   |                                                                                   | 1075                                                                              |                                                                                   |                                                                                   | 1015                                                                                |                                                                                     |                                                                                     | 953                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 300                                                                               |                                                                                   |                                                                                   | 250                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 210                                                                                 |                                                                                     |                                                                                     | 600                                                                                 |
| Base Capacity (vph)     | 363                                                                               | 608                                                                               |                                                                                   | 338                                                                               | 605                                                                               |                                                                                   |                                                                                   | 602                                                                                 | 928                                                                                 |                                                                                     | 603                                                                                 | 963                                                                                 |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |
| Reduced v/c Ratio       | 0.96                                                                              | 0.71                                                                              |                                                                                   | 0.39                                                                              | 0.65                                                                              |                                                                                   |                                                                                   | 0.56                                                                                | 0.25                                                                                |                                                                                     | 0.29                                                                                | 0.27                                                                                |

### Intersection Summary

Area Type: Other  
 Cycle Length: 75  
 Actuated Cycle Length: 71.3  
 Natural Cycle: 55  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.96  
 Intersection Signal Delay: 28.8  
 Intersection Capacity Utilization 80.4%  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Intersection LOS: C  
 ICU Level of Service D

### Splits and Phases: 8: Thompson Road & South Bay Road

|                                                                                        |                                                                                        |                                                                                        |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
|  Ø2 |  Ø3 |  Ø4 |
| 30 s                                                                                   | 15 s                                                                                   | 30 s                                                                                   |
|  Ø6 |  Ø7 |  Ø8 |
| 30 s                                                                                   | 15 s                                                                                   | 30 s                                                                                   |



# Lanes, Volumes, Timings

## 9: Lakeshore Road & Mudd Mill Road

07/05/2022

|                            |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | WBT                                                                               | WBR                                                                               | SBL                                                                               | SBR                                                                               |
| Lane Configurations        |                                                                                   |  |  |                                                                                   |  |                                                                                   |
| Traffic Volume (vph)       | 52                                                                                | 169                                                                               | 121                                                                               | 114                                                                               | 91                                                                                | 33                                                                                |
| Future Volume (vph)        | 52                                                                                | 169                                                                               | 121                                                                               | 114                                                                               | 91                                                                                | 33                                                                                |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Satd. Flow (prot)          | 0                                                                                 | 1840                                                                              | 1706                                                                              | 0                                                                                 | 1700                                                                              | 0                                                                                 |
| Flt Permitted              |                                                                                   | 0.988                                                                             |                                                                                   |                                                                                   | 0.965                                                                             |                                                                                   |
| Satd. Flow (perm)          | 0                                                                                 | 1840                                                                              | 1706                                                                              | 0                                                                                 | 1700                                                                              | 0                                                                                 |
| Link Speed (mph)           |                                                                                   | 35                                                                                | 35                                                                                |                                                                                   | 35                                                                                |                                                                                   |
| Link Distance (ft)         |                                                                                   | 753                                                                               | 701                                                                               |                                                                                   | 545                                                                               |                                                                                   |
| Travel Time (s)            |                                                                                   | 14.7                                                                              | 13.7                                                                              |                                                                                   | 10.6                                                                              |                                                                                   |
| Confl. Peds. (#/hr)        | 1                                                                                 |                                                                                   |                                                                                   | 1                                                                                 |                                                                                   |                                                                                   |
| Peak Hour Factor           | 0.83                                                                              | 0.83                                                                              | 0.85                                                                              | 0.85                                                                              | 0.82                                                                              | 0.82                                                                              |
| Heavy Vehicles (%)         | 2%                                                                                | 2%                                                                                | 4%                                                                                | 4%                                                                                | 4%                                                                                | 4%                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)      | 0                                                                                 | 267                                                                               | 276                                                                               | 0                                                                                 | 151                                                                               | 0                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment             | Left                                                                              | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Right                                                                             |
| Median Width(ft)           |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 12                                                                                |                                                                                   |
| Link Offset(ft)            |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 |                                                                                   |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                | 16                                                                                |                                                                                   | 16                                                                                |                                                                                   |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (mph)        | 15                                                                                |                                                                                   |                                                                                   | 9                                                                                 | 15                                                                                | 9                                                                                 |
| Sign Control               |                                                                                   | Free                                                                              | Free                                                                              |                                                                                   | Stop                                                                              |                                                                                   |

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 42.2%

ICU Level of Service A

Analysis Period (min) 15



HCM 6th TWSC  
9: Lakeshore Road & Mudd Mill Road

07/05/2022

Intersection

Int Delay, s/veh 3.9

| Movement                 | EBL  | EBT                                                                               | WBT                                                                               | WBR  | SBL                                                                               | SBR  |
|--------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|------|
| Lane Configurations      |      |  |  |      |  |      |
| Traffic Vol, veh/h       | 52   | 169                                                                               | 121                                                                               | 114  | 91                                                                                | 33   |
| Future Vol, veh/h        | 52   | 169                                                                               | 121                                                                               | 114  | 91                                                                                | 33   |
| Conflicting Peds, #/hr   | 1    | 0                                                                                 | 0                                                                                 | 1    | 0                                                                                 | 0    |
| Sign Control             | Free | Free                                                                              | Free                                                                              | Free | Stop                                                                              | Stop |
| RT Channelized           | -    | None                                                                              | -                                                                                 | None | -                                                                                 | None |
| Storage Length           | -    | -                                                                                 | -                                                                                 | -    | 0                                                                                 | -    |
| Veh in Median Storage, # | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Grade, %                 | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Peak Hour Factor         | 83   | 83                                                                                | 85                                                                                | 85   | 82                                                                                | 82   |
| Heavy Vehicles, %        | 2    | 2                                                                                 | 4                                                                                 | 4    | 4                                                                                 | 4    |
| Mvmt Flow                | 63   | 204                                                                               | 142                                                                               | 134  | 111                                                                               | 40   |

| Major/Minor          | Major1 | Major2 | Minor2 |
|----------------------|--------|--------|--------|
| Conflicting Flow All | 277    | 0      | 0      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |
| Critical Hdwy        | 4.12   | -      | -      |
| Critical Hdwy Stg 1  | -      | -      | -      |
| Critical Hdwy Stg 2  | -      | -      | -      |
| Follow-up Hdwy       | 2.218  | -      | -      |
| Pot Cap-1 Maneuver   | 1286   | -      | -      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |
| Platoon blocked, %   | -      | -      | -      |
| Mov Cap-1 Maneuver   | 1285   | -      | -      |
| Mov Cap-2 Maneuver   | -      | -      | -      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |

| Approach             | EB  | WB | SB   |
|----------------------|-----|----|------|
| HCM Control Delay, s | 1.9 | 0  | 14.4 |
| HCM LOS              |     |    | B    |

| Minor Lane/Major Mvmt | EBL   | EBT | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-----|-------|
| Capacity (veh/h)      | 1285  | -   | -   | -   | 532   |
| HCM Lane V/C Ratio    | 0.049 | -   | -   | -   | 0.284 |
| HCM Control Delay (s) | 7.9   | 0   | -   | -   | 14.4  |
| HCM Lane LOS          | A     | A   | -   | -   | B     |
| HCM 95th %tile Q(veh) | 0.2   | -   | -   | -   | 1.2   |



# Lanes, Volumes, Timings

## 10: South Bay Road & Lakeshore Road

07/05/2022

|                            |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                 | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations        |  |                                                                                   |                                                                                   |  |  |                                                                                   |
| Traffic Volume (vph)       | 153                                                                               | 10                                                                                | 91                                                                                | 121                                                                               | 14                                                                                | 131                                                                               |
| Future Volume (vph)        | 153                                                                               | 10                                                                                | 91                                                                                | 121                                                                               | 14                                                                                | 131                                                                               |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Satd. Flow (prot)          | 1830                                                                              | 0                                                                                 | 0                                                                                 | 1824                                                                              | 1643                                                                              | 0                                                                                 |
| Flt Permitted              |                                                                                   |                                                                                   |                                                                                   | 0.979                                                                             | 0.995                                                                             |                                                                                   |
| Satd. Flow (perm)          | 1830                                                                              | 0                                                                                 | 0                                                                                 | 1824                                                                              | 1643                                                                              | 0                                                                                 |
| Link Speed (mph)           | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                | 45                                                                                |                                                                                   |
| Link Distance (ft)         | 538                                                                               |                                                                                   |                                                                                   | 300                                                                               | 501                                                                               |                                                                                   |
| Travel Time (s)            | 10.5                                                                              |                                                                                   |                                                                                   | 5.8                                                                               | 7.6                                                                               |                                                                                   |
| Peak Hour Factor           | 0.81                                                                              | 0.81                                                                              | 0.77                                                                              | 0.77                                                                              | 0.83                                                                              | 0.83                                                                              |
| Heavy Vehicles (%)         | 3%                                                                                | 3%                                                                                | 2%                                                                                | 2%                                                                                | 1%                                                                                | 1%                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)      | 201                                                                               | 0                                                                                 | 0                                                                                 | 275                                                                               | 175                                                                               | 0                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment             | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Left                                                                              | Right                                                                             |
| Median Width(ft)           | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 | 12                                                                                |                                                                                   |
| Link Offset(ft)            | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |
| Crosswalk Width(ft)        | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                | 16                                                                                |                                                                                   |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (mph)        |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 15                                                                                | 9                                                                                 |
| Sign Control               | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              | Stop                                                                              |                                                                                   |

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 38.9%

ICU Level of Service A

Analysis Period (min) 15



HCM 6th TWSC  
10: South Bay Road & Lakeshore Road

07/05/2022

Intersection

Int Delay, s/veh 4.4

| Movement                 | EBT                                                                               | EBR  | WBL  | WBT                                                                               | NBL                                                                               | NBR  |
|--------------------------|-----------------------------------------------------------------------------------|------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|
| Lane Configurations      |  |      |      |  |  |      |
| Traffic Vol, veh/h       | 153                                                                               | 10   | 91   | 121                                                                               | 14                                                                                | 131  |
| Future Vol, veh/h        | 153                                                                               | 10   | 91   | 121                                                                               | 14                                                                                | 131  |
| Conflicting Peds, #/hr   | 0                                                                                 | 0    | 0    | 0                                                                                 | 0                                                                                 | 0    |
| Sign Control             | Free                                                                              | Free | Free | Free                                                                              | Stop                                                                              | Stop |
| RT Channelized           | -                                                                                 | None | -    | None                                                                              | -                                                                                 | None |
| Storage Length           | -                                                                                 | -    | -    | -                                                                                 | 0                                                                                 | -    |
| Veh in Median Storage, # | 0                                                                                 | -    | -    | 0                                                                                 | 0                                                                                 | -    |
| Grade, %                 | 0                                                                                 | -    | -    | 0                                                                                 | 0                                                                                 | -    |
| Peak Hour Factor         | 81                                                                                | 81   | 77   | 77                                                                                | 83                                                                                | 83   |
| Heavy Vehicles, %        | 3                                                                                 | 3    | 2    | 2                                                                                 | 1                                                                                 | 1    |
| Mvmt Flow                | 189                                                                               | 12   | 118  | 157                                                                               | 17                                                                                | 158  |

| Major/Minor          | Major1 | Major2 | Minor1 |
|----------------------|--------|--------|--------|
| Conflicting Flow All | 0      | 0      | 201    |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |
| Critical Hdwy        | -      | -      | 4.12   |
| Critical Hdwy Stg 1  | -      | -      | -      |
| Critical Hdwy Stg 2  | -      | -      | -      |
| Follow-up Hdwy       | -      | -      | 2.218  |
| Pot Cap-1 Maneuver   | -      | -      | 1371   |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |
| Platoon blocked, %   | -      | -      | -      |
| Mov Cap-1 Maneuver   | -      | -      | 1371   |
| Mov Cap-2 Maneuver   | -      | -      | -      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |

| Approach             | EB | WB  | NB |
|----------------------|----|-----|----|
| HCM Control Delay, s | 0  | 3.4 | 11 |
| HCM LOS              |    |     | B  |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL   | WBT |
|-----------------------|-------|-----|-----|-------|-----|
| Capacity (veh/h)      | 776   | -   | -   | 1371  | -   |
| HCM Lane V/C Ratio    | 0.225 | -   | -   | 0.086 | -   |
| HCM Control Delay (s) | 11    | -   | -   | 7.9   | 0   |
| HCM Lane LOS          | B     | -   | -   | A     | A   |
| HCM 95th %tile Q(veh) | 0.9   | -   | -   | 0.3   | -   |



# Lanes, Volumes, Timings

## 11: Cicero Center Road/Van Antwerp Drive & Lakeshore Road

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (vph)       | 2                                                                                 | 258                                                                               | 24                                                                                | 7                                                                                 | 176                                                                               | 35                                                                                | 1                                                                                 | 17                                                                                  | 1                                                                                   | 0                                                                                   | 1                                                                                   | 0                                                                                   |
| Future Volume (vph)        | 2                                                                                 | 258                                                                               | 24                                                                                | 7                                                                                 | 176                                                                               | 35                                                                                | 1                                                                                 | 17                                                                                  | 1                                                                                   | 0                                                                                   | 1                                                                                   | 0                                                                                   |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Satd. Flow (prot)          | 0                                                                                 | 1842                                                                              | 0                                                                                 | 0                                                                                 | 1818                                                                              | 0                                                                                 | 0                                                                                 | 1848                                                                                | 0                                                                                   | 0                                                                                   | 1863                                                                                | 0                                                                                   |
| Flt Permitted              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.998                                                                             |                                                                                   |                                                                                   | 0.998                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Satd. Flow (perm)          | 0                                                                                 | 1842                                                                              | 0                                                                                 | 0                                                                                 | 1818                                                                              | 0                                                                                 | 0                                                                                 | 1848                                                                                | 0                                                                                   | 0                                                                                   | 1863                                                                                | 0                                                                                   |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 55                                                                                  |                                                                                     |                                                                                     | 30                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 557                                                                               |                                                                                   |                                                                                   | 543                                                                               |                                                                                   |                                                                                   | 388                                                                                 |                                                                                     |                                                                                     | 295                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 10.9                                                                              |                                                                                   |                                                                                   | 10.6                                                                              |                                                                                   |                                                                                   | 4.8                                                                                 |                                                                                     |                                                                                     | 6.7                                                                                 |                                                                                     |
| Confl. Peds. (#/hr)        |                                                                                   |                                                                                   | 1                                                                                 | 1                                                                                 |                                                                                   |                                                                                   | 4                                                                                 |                                                                                     | 1                                                                                   | 1                                                                                   |                                                                                     | 4                                                                                   |
| Peak Hour Factor           | 0.80                                                                              | 0.80                                                                              | 0.80                                                                              | 0.65                                                                              | 0.65                                                                              | 0.65                                                                              | 0.80                                                                              | 0.80                                                                                | 0.80                                                                                | 0.50                                                                                | 0.50                                                                                | 0.50                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 0                                                                                 | 356                                                                               | 0                                                                                 | 0                                                                                 | 336                                                                               | 0                                                                                 | 0                                                                                 | 23                                                                                  | 0                                                                                   | 0                                                                                   | 2                                                                                   | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Sign Control               |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Stop                                                                                |                                                                                     |                                                                                     | Stop                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 27.4%

ICU Level of Service A

Analysis Period (min) 15



|                          |        |       |        |       |       |        |       |       |        |       |       |       |
|--------------------------|--------|-------|--------|-------|-------|--------|-------|-------|--------|-------|-------|-------|
| Intersection             |        |       |        |       |       |        |       |       |        |       |       |       |
| Int Delay, s/veh         | 0.7    |       |        |       |       |        |       |       |        |       |       |       |
| Movement                 | EBL    | EBT   | EBR    | WBL   | WBT   | WBR    | NBL   | NBT   | NBR    | SBL   | SBT   | SBR   |
| Lane Configurations      |        | ↔     |        |       | ↔     |        |       | ↔     |        |       | ↔     |       |
| Traffic Vol, veh/h       | 2      | 258   | 24     | 7     | 176   | 35     | 1     | 17    | 1      | 0     | 1     | 0     |
| Future Vol, veh/h        | 2      | 258   | 24     | 7     | 176   | 35     | 1     | 17    | 1      | 0     | 1     | 0     |
| Conflicting Peds, #/hr   | 0      | 0     | 1      | 1     | 0     | 0      | 4     | 0     | 1      | 1     | 0     | 4     |
| Sign Control             | Free   | Free  | Free   | Free  | Free  | Free   | Stop  | Stop  | Stop   | Stop  | Stop  | Stop  |
| RT Channelized           | -      | -     | None   | -     | -     | None   | -     | -     | None   | -     | -     | None  |
| Storage Length           | -      | -     | -      | -     | -     | -      | -     | -     | -      | -     | -     | -     |
| Veh in Median Storage, # | -      | 0     | -      | -     | 0     | -      | -     | 0     | -      | -     | 0     | -     |
| Grade, %                 | -      | 0     | -      | -     | 0     | -      | -     | 0     | -      | -     | 0     | -     |
| Peak Hour Factor         | 80     | 80    | 80     | 65    | 65    | 65     | 80    | 80    | 80     | 50    | 50    | 50    |
| Heavy Vehicles, %        | 2      | 2     | 2      | 2     | 2     | 2      | 2     | 2     | 2      | 2     | 2     | 2     |
| Mvmt Flow                | 3      | 323   | 30     | 11    | 271   | 54     | 1     | 21    | 1      | 0     | 2     | 0     |
|                          |        |       |        |       |       |        |       |       |        |       |       |       |
| Major/Minor              | Major1 |       | Major2 |       |       | Minor1 |       |       | Minor2 |       |       |       |
| Conflicting Flow All     | 325    | 0     | 0      | 354   | 0     | 0      | 670   | 692   | 340    | 676   | 680   | 302   |
| Stage 1                  | -      | -     | -      | -     | -     | -      | 345   | 345   | -      | 320   | 320   | -     |
| Stage 2                  | -      | -     | -      | -     | -     | -      | 325   | 347   | -      | 356   | 360   | -     |
| Critical Hdwy            | 4.12   | -     | -      | 4.12  | -     | -      | 7.12  | 6.52  | 6.22   | 7.12  | 6.52  | 6.22  |
| Critical Hdwy Stg 1      | -      | -     | -      | -     | -     | -      | 6.12  | 5.52  | -      | 6.12  | 5.52  | -     |
| Critical Hdwy Stg 2      | -      | -     | -      | -     | -     | -      | 6.12  | 5.52  | -      | 6.12  | 5.52  | -     |
| Follow-up Hdwy           | 2.218  | -     | -      | 2.218 | -     | -      | 3.518 | 4.018 | 3.318  | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver       | 1235   | -     | -      | 1205  | -     | -      | 371   | 367   | 702    | 367   | 373   | 738   |
| Stage 1                  | -      | -     | -      | -     | -     | -      | 671   | 636   | -      | 692   | 652   | -     |
| Stage 2                  | -      | -     | -      | -     | -     | -      | 687   | 635   | -      | 661   | 626   | -     |
| Platoon blocked, %       |        | -     | -      |       | -     | -      |       |       |        |       |       |       |
| Mov Cap-1 Maneuver       | 1235   | -     | -      | 1204  | -     | -      | 364   | 361   | 701    | 346   | 367   | 735   |
| Mov Cap-2 Maneuver       | -      | -     | -      | -     | -     | -      | 364   | 361   | -      | 346   | 367   | -     |
| Stage 1                  | -      | -     | -      | -     | -     | -      | 668   | 633   | -      | 690   | 645   | -     |
| Stage 2                  | -      | -     | -      | -     | -     | -      | 675   | 628   | -      | 635   | 623   | -     |
|                          |        |       |        |       |       |        |       |       |        |       |       |       |
| Approach                 | EB     |       | WB     |       |       | NB     |       |       | SB     |       |       |       |
| HCM Control Delay, s     | 0.1    |       | 0.3    |       |       | 15.4   |       |       | 14.9   |       |       |       |
| HCM LOS                  |        |       |        |       |       | C      |       |       | B      |       |       |       |
|                          |        |       |        |       |       |        |       |       |        |       |       |       |
| Minor Lane/Major Mvmt    | NBLn1  | EBL   | EBT    | EBR   | WBL   | WBT    | WBR   | SBLn1 |        |       |       |       |
| Capacity (veh/h)         | 371    | 1235  | -      | -     | 1204  | -      | -     | 367   |        |       |       |       |
| HCM Lane V/C Ratio       | 0.064  | 0.002 | -      | -     | 0.009 | -      | -     | 0.005 |        |       |       |       |
| HCM Control Delay (s)    | 15.4   | 7.9   | 0      | -     | 8     | 0      | -     | 14.9  |        |       |       |       |
| HCM Lane LOS             | C      | A     | A      | -     | A     | A      | -     | B     |        |       |       |       |
| HCM 95th %tile Q(veh)    | 0.2    | 0     | -      | -     | 0     | -      | -     | 0     |        |       |       |       |



# Lanes, Volumes, Timings

## 1: Route 11 & Route 31

07/05/2022

|                            |  |  |  |  |  |  |   |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |  |  |                                                                                   |  |  |                                                                                   |  |  |  |  |  |                                                                                     |
| Traffic Volume (vph)       | 68                                                                                | 508                                                                               | 121                                                                               | 513                                                                               | 516                                                                               | 130                                                                               | 127                                                                                | 304                                                                                 | 599                                                                                 | 164                                                                                 | 268                                                                                 | 70                                                                                  |
| Future Volume (vph)        | 68                                                                                | 508                                                                               | 121                                                                               | 513                                                                               | 516                                                                               | 130                                                                               | 127                                                                                | 304                                                                                 | 599                                                                                 | 164                                                                                 | 268                                                                                 | 70                                                                                  |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                               | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 200                                                                               |                                                                                   | 310                                                                               | 495                                                                               |                                                                                   | 0                                                                                 | 175                                                                                |                                                                                     | 0                                                                                   | 350                                                                                 |                                                                                     | 0                                                                                   |
| Storage Lanes              | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                  |                                                                                     | 1                                                                                   | 1                                                                                   |                                                                                     | 0                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                 |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 1787                                                                              | 3471                                                                              | 0                                                                                 | 1787                                                                              | 3467                                                                              | 0                                                                                 | 1787                                                                               | 1881                                                                                | 1599                                                                                | 1787                                                                                | 3463                                                                                | 0                                                                                   |
| Flt Permitted              | 0.382                                                                             |                                                                                   |                                                                                   | 0.112                                                                             |                                                                                   |                                                                                   | 0.412                                                                              |                                                                                     |                                                                                     | 0.207                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)          | 719                                                                               | 3471                                                                              | 0                                                                                 | 211                                                                               | 3467                                                                              | 0                                                                                 | 775                                                                                | 1881                                                                                | 1599                                                                                | 389                                                                                 | 3463                                                                                | 0                                                                                   |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                    |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   | 20                                                                                |                                                                                   |                                                                                   | 21                                                                                |                                                                                   |                                                                                    |                                                                                     | 97                                                                                  |                                                                                     | 22                                                                                  |                                                                                     |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                    | 35                                                                                  |                                                                                     |                                                                                     | 35                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 385                                                                               |                                                                                   |                                                                                   | 703                                                                               |                                                                                   |                                                                                    | 612                                                                                 |                                                                                     |                                                                                     | 561                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 7.5                                                                               |                                                                                   |                                                                                   | 13.7                                                                              |                                                                                   |                                                                                    | 11.9                                                                                |                                                                                     |                                                                                     | 10.9                                                                                |                                                                                     |
| Peak Hour Factor           | 0.86                                                                              | 0.86                                                                              | 0.86                                                                              | 0.91                                                                              | 0.91                                                                              | 0.91                                                                              | 0.95                                                                               | 0.95                                                                                | 0.95                                                                                | 0.88                                                                                | 0.88                                                                                | 0.88                                                                                |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                 | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 79                                                                                | 732                                                                               | 0                                                                                 | 564                                                                               | 710                                                                               | 0                                                                                 | 134                                                                                | 320                                                                                 | 631                                                                                 | 186                                                                                 | 385                                                                                 | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                 | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                               | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                    | 12                                                                                  |                                                                                     |                                                                                     | 12                                                                                  |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                    | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                    | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                 |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                              | NA                                                                                  | pm+ov                                                                               | pm+pt                                                                               | NA                                                                                  |                                                                                     |
| Protected Phases           | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 3                                                                                  | 8                                                                                   | 1                                                                                   | 7                                                                                   | 4                                                                                   |                                                                                     |
| Permitted Phases           | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                  |                                                                                     | 8                                                                                   | 4                                                                                   |                                                                                     |                                                                                     |
| Detector Phase             | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 3                                                                                  | 8                                                                                   | 1                                                                                   | 7                                                                                   | 4                                                                                   |                                                                                     |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 4.0                                                                               | 12.0                                                                              |                                                                                   | 8.0                                                                               | 12.0                                                                              |                                                                                   | 4.0                                                                                | 8.0                                                                                 | 8.0                                                                                 | 4.0                                                                                 | 8.0                                                                                 |                                                                                     |
| Minimum Split (s)          | 9.5                                                                               | 18.0                                                                              |                                                                                   | 13.5                                                                              | 18.0                                                                              |                                                                                   | 10.0                                                                               | 14.0                                                                                | 13.5                                                                                | 9.5                                                                                 | 14.0                                                                                |                                                                                     |
| Total Split (s)            | 40.0                                                                              | 40.0                                                                              |                                                                                   | 40.0                                                                              | 40.0                                                                              |                                                                                   | 20.0                                                                               | 40.0                                                                                | 40.0                                                                                | 20.0                                                                                | 40.0                                                                                |                                                                                     |
| Total Split (%)            | 28.6%                                                                             | 28.6%                                                                             |                                                                                   | 28.6%                                                                             | 28.6%                                                                             |                                                                                   | 14.3%                                                                              | 28.6%                                                                               | 28.6%                                                                               | 14.3%                                                                               | 28.6%                                                                               |                                                                                     |
| Maximum Green (s)          | 34.5                                                                              | 34.0                                                                              |                                                                                   | 34.5                                                                              | 34.0                                                                              |                                                                                   | 14.0                                                                               | 34.0                                                                                | 34.5                                                                                | 14.5                                                                                | 34.0                                                                                |                                                                                     |
| Yellow Time (s)            | 3.5                                                                               | 3.5                                                                               |                                                                                   | 3.5                                                                               | 3.5                                                                               |                                                                                   | 3.5                                                                                | 3.5                                                                                 | 3.5                                                                                 | 3.0                                                                                 | 3.5                                                                                 |                                                                                     |
| All-Red Time (s)           | 2.0                                                                               | 2.5                                                                               |                                                                                   | 2.0                                                                               | 2.5                                                                               |                                                                                   | 2.5                                                                                | 2.5                                                                                 | 2.0                                                                                 | 2.5                                                                                 | 2.5                                                                                 |                                                                                     |
| Lost Time Adjust (s)       | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                                | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)        | 5.5                                                                               | 6.0                                                                               |                                                                                   | 5.5                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                                | 6.0                                                                                 | 5.5                                                                                 | 5.5                                                                                 | 6.0                                                                                 |                                                                                     |
| Lead/Lag                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                               | Lag                                                                                 | Lead                                                                                | Lead                                                                                | Lag                                                                                 |                                                                                     |
| Lead-Lag Optimize?         | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                                | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 |                                                                                     |
| Vehicle Extension (s)      | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                                | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |
| Recall Mode                | None                                                                              | Min                                                                               |                                                                                   | None                                                                              | Min                                                                               |                                                                                   | None                                                                               | None                                                                                | None                                                                                | None                                                                                | None                                                                                |                                                                                     |
| Act Effect Green (s)       | 39.6                                                                              | 30.6                                                                              |                                                                                   | 71.5                                                                              | 59.7                                                                              |                                                                                   | 38.2                                                                               | 26.5                                                                                | 67.3                                                                                | 41.9                                                                                | 27.8                                                                                |                                                                                     |
| Actuated g/C Ratio         | 0.31                                                                              | 0.24                                                                              |                                                                                   | 0.56                                                                              | 0.46                                                                              |                                                                                   | 0.30                                                                               | 0.21                                                                                | 0.52                                                                                | 0.33                                                                                | 0.22                                                                                |                                                                                     |
| v/c Ratio                  | 0.27                                                                              | 0.87                                                                              |                                                                                   | 1.04                                                                              | 0.44                                                                              |                                                                                   | 0.42                                                                               | 0.83                                                                                | 0.72                                                                                | 0.68                                                                                | 0.50                                                                                |                                                                                     |
| Control Delay              | 21.1                                                                              | 58.5                                                                              |                                                                                   | 86.0                                                                              | 25.5                                                                              |                                                                                   | 33.4                                                                               | 67.8                                                                                | 25.4                                                                                | 43.1                                                                                | 44.5                                                                                |                                                                                     |



# Lanes, Volumes, Timings

## 1: Route 11 & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Queue Delay             | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Delay             | 21.1                                                                              | 58.5                                                                              |                                                                                   | 86.0                                                                              | 25.5                                                                              |                                                                                   | 33.4                                                                              | 67.8                                                                                | 25.4                                                                                | 43.1                                                                                | 44.5                                                                                |                                                                                     |
| LOS                     | C                                                                                 | E                                                                                 |                                                                                   | F                                                                                 | C                                                                                 |                                                                                   | C                                                                                 | E                                                                                   | C                                                                                   | D                                                                                   | D                                                                                   |                                                                                     |
| Approach Delay          |                                                                                   | 54.9                                                                              |                                                                                   |                                                                                   | 52.3                                                                              |                                                                                   |                                                                                   | 38.9                                                                                |                                                                                     |                                                                                     | 44.1                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | D                                                                                   |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 31                                                                                | 308                                                                               |                                                                                   | ~486                                                                              | 213                                                                               |                                                                                   | 80                                                                                | 268                                                                                 | 357                                                                                 | 115                                                                                 | 146                                                                                 |                                                                                     |
| Queue Length 95th (ft)  | 59                                                                                | 384                                                                               |                                                                                   | #770                                                                              | 302                                                                               |                                                                                   | 131                                                                               | 378                                                                                 | 511                                                                                 | 171                                                                                 | 195                                                                                 |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 305                                                                               |                                                                                   |                                                                                   | 623                                                                               |                                                                                   |                                                                                   | 532                                                                                 |                                                                                     |                                                                                     | 481                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 200                                                                               |                                                                                   |                                                                                   | 495                                                                               |                                                                                   |                                                                                   | 175                                                                               |                                                                                     |                                                                                     | 350                                                                                 |                                                                                     |                                                                                     |
| Base Capacity (vph)     | 657                                                                               | 940                                                                               |                                                                                   | 543                                                                               | 1620                                                                              |                                                                                   | 355                                                                               | 501                                                                                 | 882                                                                                 | 288                                                                                 | 939                                                                                 |                                                                                     |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       | 0.12                                                                              | 0.78                                                                              |                                                                                   | 1.04                                                                              | 0.44                                                                              |                                                                                   | 0.38                                                                              | 0.64                                                                                | 0.72                                                                                | 0.65                                                                                | 0.41                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 128.7

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.04

Intersection Signal Delay: 47.7

Intersection LOS: D

Intersection Capacity Utilization 90.6%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

### Splits and Phases: 1: Route 11 & Route 31

|                                                                                        |                                                                                        |                                                                                        |                                                                                          |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
|  Ø1 |  Ø2 |  Ø3 |  Ø4 |
| 40 s                                                                                   | 40 s                                                                                   | 20 s                                                                                   | 40 s                                                                                     |
|  Ø5 |  Ø6 |  Ø7 |  Ø8 |
| 40 s                                                                                   | 40 s                                                                                   | 20 s                                                                                   | 40 s                                                                                     |



# Lanes, Volumes, Timings

## 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |                                                                                   |  |                                                                                   |  |  |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |  |  |
| Traffic Volume (vph)       | 0                                                                                 | 1017                                                                              | 254                                                                               | 298                                                                               | 981                                                                               | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 146                                                                                 | 0                                                                                   | 178                                                                                 |
| Future Volume (vph)        | 0                                                                                 | 1017                                                                              | 254                                                                               | 298                                                                               | 981                                                                               | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 146                                                                                 | 0                                                                                   | 178                                                                                 |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                               | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 0                                                                                 |                                                                                   | 0                                                                                 | 150                                                                               |                                                                                   | 0                                                                                 | 0                                                                                  |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     | 125                                                                                 |
| Storage Lanes              | 0                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                  |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     | 1                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                 |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 0                                                                                 | 3433                                                                              | 0                                                                                 | 1770                                                                              | 3539                                                                              | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   | 1752                                                                                | 1568                                                                                |
| Flt Permitted              |                                                                                   |                                                                                   |                                                                                   | 0.067                                                                             |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 0.950                                                                               |                                                                                     |
| Satd. Flow (perm)          | 0                                                                                 | 3433                                                                              | 0                                                                                 | 125                                                                               | 3539                                                                              | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   | 1752                                                                                | 1568                                                                                |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                    |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   | 34                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 185                                                                                 |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                    | 40                                                                                  |                                                                                     |                                                                                     | 40                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 703                                                                               |                                                                                   |                                                                                   | 360                                                                               |                                                                                   |                                                                                    | 622                                                                                 |                                                                                     |                                                                                     | 505                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 13.7                                                                              |                                                                                   |                                                                                   | 7.0                                                                               |                                                                                   |                                                                                    | 10.6                                                                                |                                                                                     |                                                                                     | 8.6                                                                                 |                                                                                     |
| Confl. Peds. (#/hr)        | 1                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1                                                                                 |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Peak Hour Factor           | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.90                                                                               | 0.90                                                                                | 0.90                                                                                | 0.79                                                                                | 0.79                                                                                | 0.79                                                                                |
| Heavy Vehicles (%)         | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                 | 2%                                                                                  | 2%                                                                                  | 3%                                                                                  | 3%                                                                                  | 3%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 0                                                                                 | 1367                                                                              | 0                                                                                 | 320                                                                               | 1055                                                                              | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   | 185                                                                                 | 225                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                 | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                               | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                    | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                    | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                    | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                 |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  |                                                                                   | NA                                                                                |                                                                                   | pm+pt                                                                             | NA                                                                                |                                                                                   |                                                                                    |                                                                                     |                                                                                     | Perm                                                                                | NA                                                                                  | Perm                                                                                |
| Protected Phases           |                                                                                   | 2                                                                                 |                                                                                   | 1 3                                                                               | 6                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |
| Permitted Phases           |                                                                                   |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     | 4                                                                                   |
| Detector Phase             |                                                                                   | 2                                                                                 |                                                                                   | 1 3                                                                               | 6                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 4                                                                                   | 4                                                                                   | 4                                                                                   |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        |                                                                                   | 12.0                                                                              |                                                                                   |                                                                                   | 12.0                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 |
| Minimum Split (s)          |                                                                                   | 17.0                                                                              |                                                                                   |                                                                                   | 17.0                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 9.0                                                                                 | 9.0                                                                                 | 9.0                                                                                 |
| Total Split (s)            |                                                                                   | 50.0                                                                              |                                                                                   |                                                                                   | 91.0                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 19.0                                                                                | 19.0                                                                                | 19.0                                                                                |
| Total Split (%)            |                                                                                   | 45.5%                                                                             |                                                                                   |                                                                                   | 82.7%                                                                             |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 17.3%                                                                               | 17.3%                                                                               | 17.3%                                                                               |
| Maximum Green (s)          |                                                                                   | 45.0                                                                              |                                                                                   |                                                                                   | 86.0                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 14.0                                                                                | 14.0                                                                                | 14.0                                                                                |
| Yellow Time (s)            |                                                                                   | 3.5                                                                               |                                                                                   |                                                                                   | 3.5                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 |
| All-Red Time (s)           |                                                                                   | 1.5                                                                               |                                                                                   |                                                                                   | 1.5                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 1.0                                                                                 | 1.0                                                                                 | 1.0                                                                                 |
| Lost Time Adjust (s)       |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |
| Total Lost Time (s)        |                                                                                   | 5.0                                                                               |                                                                                   |                                                                                   | 5.0                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |
| Lead/Lag                   |                                                                                   | Lag                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?         |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Vehicle Extension (s)      |                                                                                   | 3.0                                                                               |                                                                                   |                                                                                   | 3.0                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |
| Recall Mode                |                                                                                   | C-Min                                                                             |                                                                                   |                                                                                   | C-Min                                                                             |                                                                                   |                                                                                    |                                                                                     |                                                                                     | None                                                                                | None                                                                                | None                                                                                |
| Act Effect Green (s)       |                                                                                   | 50.2                                                                              |                                                                                   | 83.4                                                                              | 83.4                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 16.6                                                                                | 16.6                                                                                |
| Actuated g/C Ratio         |                                                                                   | 0.46                                                                              |                                                                                   | 0.76                                                                              | 0.76                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 0.15                                                                                | 0.15                                                                                |
| v/c Ratio                  |                                                                                   | 0.86                                                                              |                                                                                   | 0.72                                                                              | 0.39                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 0.70                                                                                | 0.57                                                                                |



# Lanes, Volumes, Timings

## 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

07/05/2022

| Lane Group                 | Ø1   | Ø3   |
|----------------------------|------|------|
| Lane Configurations        |      |      |
| Traffic Volume (vph)       |      |      |
| Future Volume (vph)        |      |      |
| Ideal Flow (vphpl)         |      |      |
| Storage Length (ft)        |      |      |
| Storage Lanes              |      |      |
| Taper Length (ft)          |      |      |
| Satd. Flow (prot)          |      |      |
| Flt Permitted              |      |      |
| Satd. Flow (perm)          |      |      |
| Right Turn on Red          |      |      |
| Satd. Flow (RTOR)          |      |      |
| Link Speed (mph)           |      |      |
| Link Distance (ft)         |      |      |
| Travel Time (s)            |      |      |
| Confl. Peds. (#/hr)        |      |      |
| Peak Hour Factor           |      |      |
| Heavy Vehicles (%)         |      |      |
| Shared Lane Traffic (%)    |      |      |
| Lane Group Flow (vph)      |      |      |
| Enter Blocked Intersection |      |      |
| Lane Alignment             |      |      |
| Median Width(ft)           |      |      |
| Link Offset(ft)            |      |      |
| Crosswalk Width(ft)        |      |      |
| Two way Left Turn Lane     |      |      |
| Headway Factor             |      |      |
| Turning Speed (mph)        |      |      |
| Turn Type                  |      |      |
| Protected Phases           | 1    | 3    |
| Permitted Phases           |      |      |
| Detector Phase             |      |      |
| Switch Phase               |      |      |
| Minimum Initial (s)        | 4.0  | 4.0  |
| Minimum Split (s)          | 9.0  | 9.0  |
| Total Split (s)            | 13.0 | 28.0 |
| Total Split (%)            | 12%  | 25%  |
| Maximum Green (s)          | 8.0  | 23.0 |
| Yellow Time (s)            | 3.5  | 3.5  |
| All-Red Time (s)           | 1.5  | 1.5  |
| Lost Time Adjust (s)       |      |      |
| Total Lost Time (s)        |      |      |
| Lead/Lag                   | Lead |      |
| Lead-Lag Optimize?         | Yes  |      |
| Vehicle Extension (s)      | 3.0  | 3.0  |
| Recall Mode                | None | None |
| Act Effect Green (s)       |      |      |
| Actuated g/C Ratio         |      |      |
| v/c Ratio                  |      |      |



# Lanes, Volumes, Timings

## 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Control Delay           |                                                                                   | 34.4                                                                              |                                                                                   | 27.2                                                                              | 4.7                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 59.2                                                                                | 16.3                                                                                |
| Queue Delay             |                                                                                   | 1.0                                                                               |                                                                                   | 9.1                                                                               | 0.7                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |
| Total Delay             |                                                                                   | 35.4                                                                              |                                                                                   | 36.3                                                                              | 5.4                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 59.2                                                                                | 16.3                                                                                |
| LOS                     |                                                                                   | D                                                                                 |                                                                                   | D                                                                                 | A                                                                                 |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | E                                                                                   | B                                                                                   |
| Approach Delay          |                                                                                   | 35.4                                                                              |                                                                                   |                                                                                   | 12.6                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 35.6                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | B                                                                                 |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Queue Length 50th (ft)  |                                                                                   | 462                                                                               |                                                                                   | 74                                                                                | 224                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 123                                                                                 | 24                                                                                  |
| Queue Length 95th (ft)  |                                                                                   | #638                                                                              |                                                                                   | 222                                                                               | 10                                                                                |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 175                                                                                 | 68                                                                                  |
| Internal Link Dist (ft) |                                                                                   | 623                                                                               |                                                                                   |                                                                                   | 280                                                                               |                                                                                   |                                                                                   | 542                                                                                 |                                                                                     |                                                                                     | 425                                                                                 |                                                                                     |
| Turn Bay Length (ft)    |                                                                                   |                                                                                   |                                                                                   | 150                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 125                                                                                 |
| Base Capacity (vph)     |                                                                                   | 1585                                                                              |                                                                                   | 592                                                                               | 2778                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 269                                                                                 | 397                                                                                 |
| Starvation Cap Reductn  |                                                                                   | 0                                                                                 |                                                                                   | 233                                                                               | 1247                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 0                                                                                   | 0                                                                                   |
| Spillback Cap Reductn   |                                                                                   | 69                                                                                |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 0                                                                                   | 0                                                                                   |
| Storage Cap Reductn     |                                                                                   | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 0                                                                                   | 0                                                                                   |
| Reduced v/c Ratio       |                                                                                   | 0.90                                                                              |                                                                                   | 0.89                                                                              | 0.69                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 0.69                                                                                | 0.57                                                                                |

### Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 8 (7%), Referenced to phase 2:EBT and 6:WBTL, Start of Yellow

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 25.5

Intersection LOS: C

Intersection Capacity Utilization 73.3%

ICU Level of Service D

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

### Splits and Phases: 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

|                                                                                            |                                                                                            |                                                                                        |                                                                                          |
|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
|  Ø1     |  Ø2 (R) |  Ø3 |  Ø4 |
| 13 s                                                                                       | 50 s                                                                                       | 28 s                                                                                   | 19 s                                                                                     |
|  Ø6 (R) |                                                                                            |                                                                                        |                                                                                          |
| 91 s                                                                                       |                                                                                            |                                                                                        |                                                                                          |



## Lanes, Volumes, Timings

### 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

07/05/2022

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| Lane Group | Ø1 | Ø3 |
|------------|----|----|
|------------|----|----|

---

Control Delay

Queue Delay

Total Delay

LOS

Approach Delay

Approach LOS

Queue Length 50th (ft)

Queue Length 95th (ft)

Internal Link Dist (ft)

Turn Bay Length (ft)

Base Capacity (vph)

Starvation Cap Reductn

Spillback Cap Reductn

Storage Cap Reductn

Reduced v/c Ratio

Intersection Summary

---



# Lanes, Volumes, Timings

## 3: I-81 NB Offramp/Pardee Road & Route 31

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |  |  |                                                                                   |                                                                                   |  |                                                                                   |  |  |  |                                                                                     |                                                                                     |  |
| Traffic Volume (vph)       | 268                                                                               | 895                                                                               | 0                                                                                 | 0                                                                                 | 966                                                                               | 196                                                                               | 198                                                                               | 48                                                                                  | 311                                                                                 | 0                                                                                   | 0                                                                                   | 115                                                                                 |
| Future Volume (vph)        | 268                                                                               | 895                                                                               | 0                                                                                 | 0                                                                                 | 966                                                                               | 196                                                                               | 198                                                                               | 48                                                                                  | 311                                                                                 | 0                                                                                   | 0                                                                                   | 115                                                                                 |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 85                                                                                |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 310                                                                               |                                                                                     | 100                                                                                 | 0                                                                                   |                                                                                     | 0                                                                                   |
| Storage Lanes              | 1                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                     | 1                                                                                   | 0                                                                                   |                                                                                     | 1                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 1787                                                                              | 3574                                                                              | 0                                                                                 | 0                                                                                 | 3485                                                                              | 0                                                                                 | 1787                                                                              | 1881                                                                                | 1599                                                                                | 0                                                                                   | 0                                                                                   | 1627                                                                                |
| Flt Permitted              | 0.102                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.950                                                                             |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Satd. Flow (perm)          | 192                                                                               | 3574                                                                              | 0                                                                                 | 0                                                                                 | 3485                                                                              | 0                                                                                 | 1787                                                                              | 1881                                                                                | 1599                                                                                | 0                                                                                   | 0                                                                                   | 1627                                                                                |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 21                                                                                |                                                                                   |                                                                                   |                                                                                     | 102                                                                                 |                                                                                     |                                                                                     | 280                                                                                 |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 40                                                                                  |                                                                                     |                                                                                     | 55                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 360                                                                               |                                                                                   |                                                                                   | 1082                                                                              |                                                                                   |                                                                                   | 639                                                                                 |                                                                                     |                                                                                     | 500                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 7.0                                                                               |                                                                                   |                                                                                   | 21.1                                                                              |                                                                                   |                                                                                   | 10.9                                                                                |                                                                                     |                                                                                     | 6.2                                                                                 |                                                                                     |
| Peak Hour Factor           | 0.91                                                                              | 0.91                                                                              | 0.91                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                                | 0.93                                                                                | 0.87                                                                                | 0.87                                                                                | 0.87                                                                                |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 295                                                                               | 984                                                                               | 0                                                                                 | 0                                                                                 | 1250                                                                              | 0                                                                                 | 213                                                                               | 52                                                                                  | 334                                                                                 | 0                                                                                   | 0                                                                                   | 132                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                  |                                                                                     |                                                                                     | 12                                                                                  |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | pm+pt                                                                             | NA                                                                                |                                                                                   |                                                                                   | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                  | Perm                                                                                |                                                                                     |                                                                                     | Over                                                                                |
| Protected Phases           | 5                                                                                 | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     | 5                                                                                   |
| Permitted Phases           | 2                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 8                                                                                 |                                                                                     | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Detector Phase             | 5                                                                                 | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   | 8                                                                                 | 8                                                                                   | 8                                                                                   |                                                                                     |                                                                                     | 5                                                                                   |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 4.0                                                                               | 12.0                                                                              |                                                                                   |                                                                                   | 12.0                                                                              |                                                                                   | 6.0                                                                               | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |                                                                                     | 4.0                                                                                 |
| Minimum Split (s)          | 9.0                                                                               | 17.5                                                                              |                                                                                   |                                                                                   | 17.5                                                                              |                                                                                   | 12.0                                                                              | 12.0                                                                                | 12.0                                                                                |                                                                                     |                                                                                     | 9.0                                                                                 |
| Total Split (s)            | 31.0                                                                              | 66.0                                                                              |                                                                                   |                                                                                   | 35.0                                                                              |                                                                                   | 44.0                                                                              | 44.0                                                                                | 44.0                                                                                |                                                                                     |                                                                                     | 31.0                                                                                |
| Total Split (%)            | 28.2%                                                                             | 60.0%                                                                             |                                                                                   |                                                                                   | 31.8%                                                                             |                                                                                   | 40.0%                                                                             | 40.0%                                                                               | 40.0%                                                                               |                                                                                     |                                                                                     | 28.2%                                                                               |
| Maximum Green (s)          | 26.0                                                                              | 60.5                                                                              |                                                                                   |                                                                                   | 29.5                                                                              |                                                                                   | 38.0                                                                              | 38.0                                                                                | 38.0                                                                                |                                                                                     |                                                                                     | 26.0                                                                                |
| Yellow Time (s)            | 3.0                                                                               | 3.5                                                                               |                                                                                   |                                                                                   | 3.5                                                                               |                                                                                   | 4.0                                                                               | 4.0                                                                                 | 4.0                                                                                 |                                                                                     |                                                                                     | 3.0                                                                                 |
| All-Red Time (s)           | 2.0                                                                               | 2.0                                                                               |                                                                                   |                                                                                   | 2.0                                                                               |                                                                                   | 2.0                                                                               | 2.0                                                                                 | 2.0                                                                                 |                                                                                     |                                                                                     | 2.0                                                                                 |
| Lost Time Adjust (s)       | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |                                                                                     | 0.0                                                                                 |
| Total Lost Time (s)        | 5.0                                                                               | 5.5                                                                               |                                                                                   |                                                                                   | 5.5                                                                               |                                                                                   | 6.0                                                                               | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |                                                                                     | 5.0                                                                                 |
| Lead/Lag                   | Lead                                                                              |                                                                                   |                                                                                   |                                                                                   | Lag                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | Lead                                                                                |
| Lead-Lag Optimize?         | Yes                                                                               |                                                                                   |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | Yes                                                                                 |
| Vehicle Extension (s)      | 3.0                                                                               | 3.0                                                                               |                                                                                   |                                                                                   | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |                                                                                     | 3.0                                                                                 |
| Recall Mode                | None                                                                              | C-Min                                                                             |                                                                                   |                                                                                   | C-Min                                                                             |                                                                                   | None                                                                              | None                                                                                | None                                                                                |                                                                                     |                                                                                     | None                                                                                |
| Act Effct Green (s)        | 75.7                                                                              | 75.2                                                                              |                                                                                   |                                                                                   | 53.8                                                                              |                                                                                   | 23.3                                                                              | 23.3                                                                                | 23.3                                                                                |                                                                                     |                                                                                     | 16.4                                                                                |
| Actuated g/C Ratio         | 0.69                                                                              | 0.68                                                                              |                                                                                   |                                                                                   | 0.49                                                                              |                                                                                   | 0.21                                                                              | 0.21                                                                                | 0.21                                                                                |                                                                                     |                                                                                     | 0.15                                                                                |
| v/c Ratio                  | 0.80                                                                              | 0.40                                                                              |                                                                                   |                                                                                   | 0.73                                                                              |                                                                                   | 0.56                                                                              | 0.13                                                                                | 0.80                                                                                |                                                                                     |                                                                                     | 0.28                                                                                |
| Control Delay              | 34.8                                                                              | 18.6                                                                              |                                                                                   |                                                                                   | 28.2                                                                              |                                                                                   | 43.2                                                                              | 32.4                                                                                | 41.7                                                                                |                                                                                     |                                                                                     | 1.4                                                                                 |



# Lanes, Volumes, Timings

## 3: I-81 NB Offramp/Pardee Road & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Queue Delay             | 0.8                                                                               | 1.8                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |                                                                                     | 0.0                                                                                 |
| Total Delay             | 35.6                                                                              | 20.4                                                                              |                                                                                   |                                                                                   | 28.2                                                                              |                                                                                   | 43.2                                                                              | 32.4                                                                                | 41.7                                                                                |                                                                                     |                                                                                     | 1.4                                                                                 |
| LOS                     | D                                                                                 | C                                                                                 |                                                                                   |                                                                                   | C                                                                                 |                                                                                   | D                                                                                 | C                                                                                   | D                                                                                   |                                                                                     |                                                                                     | A                                                                                   |
| Approach Delay          |                                                                                   | 23.9                                                                              |                                                                                   |                                                                                   | 28.2                                                                              |                                                                                   |                                                                                   | 41.4                                                                                |                                                                                     |                                                                                     | 1.4                                                                                 |                                                                                     |
| Approach LOS            |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | D                                                                                   |                                                                                     |                                                                                     | A                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 178                                                                               | 267                                                                               |                                                                                   |                                                                                   | 348                                                                               |                                                                                   | 135                                                                               | 30                                                                                  | 158                                                                                 |                                                                                     |                                                                                     | 0                                                                                   |
| Queue Length 95th (ft)  | m218                                                                              | m329                                                                              |                                                                                   |                                                                                   | #692                                                                              |                                                                                   | 187                                                                               | 56                                                                                  | 235                                                                                 |                                                                                     |                                                                                     | 0                                                                                   |
| Internal Link Dist (ft) |                                                                                   | 280                                                                               |                                                                                   |                                                                                   | 1002                                                                              |                                                                                   |                                                                                   | 559                                                                                 |                                                                                     |                                                                                     | 420                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 85                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 310                                                                               |                                                                                     | 100                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| Base Capacity (vph)     | 510                                                                               | 2444                                                                              |                                                                                   |                                                                                   | 1716                                                                              |                                                                                   | 617                                                                               | 649                                                                                 | 619                                                                                 |                                                                                     |                                                                                     | 599                                                                                 |
| Starvation Cap Reductn  | 59                                                                                | 1234                                                                              |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |
| Reduced v/c Ratio       | 0.65                                                                              | 0.81                                                                              |                                                                                   |                                                                                   | 0.73                                                                              |                                                                                   | 0.35                                                                              | 0.08                                                                                | 0.54                                                                                |                                                                                     |                                                                                     | 0.22                                                                                |

### Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 87 (79%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 27.9

Intersection LOS: C

Intersection Capacity Utilization 72.5%

ICU Level of Service C

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

### Splits and Phases: 3: I-81 NB Offramp/Pardee Road & Route 31

|                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|  |  |  |  |  |  |  |
| Ø2 (R)                                                                              |                                                                                     |                                                                                     | Ø6 (R)                                                                              |                                                                                     |                                                                                     | Ø8                                                                                   |
| 66 s                                                                                |                                                                                     |                                                                                     | 35 s                                                                                |                                                                                     |                                                                                     | 44 s                                                                                 |
| Ø5                                                                                  |                                                                                     |                                                                                     | Ø6 (R)                                                                              |                                                                                     |                                                                                     | Ø8                                                                                   |
| 31 s                                                                                |                                                                                     |                                                                                     | 35 s                                                                                |                                                                                     |                                                                                     | 44 s                                                                                 |



# Lanes, Volumes, Timings

## 4: Route 31 & Lakeshore Road

07/05/2022

|                            |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | WBT                                                                               | WBR                                                                               | SBL                                                                               | SBR                                                                               |
| Lane Configurations        |  |  |  |                                                                                   |  |                                                                                   |
| Traffic Volume (vph)       | 419                                                                               | 787                                                                               | 750                                                                               | 0                                                                                 | 0                                                                                 | 412                                                                               |
| Future Volume (vph)        | 419                                                                               | 787                                                                               | 750                                                                               | 0                                                                                 | 0                                                                                 | 412                                                                               |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Storage Length (ft)        | 225                                                                               |                                                                                   |                                                                                   | 0                                                                                 | 0                                                                                 | 0                                                                                 |
| Storage Lanes              | 1                                                                                 |                                                                                   |                                                                                   | 0                                                                                 | 1                                                                                 | 0                                                                                 |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |
| Satd. Flow (prot)          | 1787                                                                              | 3574                                                                              | 1881                                                                              | 0                                                                                 | 1627                                                                              | 0                                                                                 |
| Flt Permitted              | 0.950                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Satd. Flow (perm)          | 1787                                                                              | 3574                                                                              | 1881                                                                              | 0                                                                                 | 1627                                                                              | 0                                                                                 |
| Link Speed (mph)           |                                                                                   | 35                                                                                | 35                                                                                |                                                                                   | 35                                                                                |                                                                                   |
| Link Distance (ft)         |                                                                                   | 1082                                                                              | 959                                                                               |                                                                                   | 962                                                                               |                                                                                   |
| Travel Time (s)            |                                                                                   | 21.1                                                                              | 18.7                                                                              |                                                                                   | 18.7                                                                              |                                                                                   |
| Peak Hour Factor           | 0.93                                                                              | 0.93                                                                              | 0.87                                                                              | 0.87                                                                              | 0.93                                                                              | 0.93                                                                              |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)      | 451                                                                               | 846                                                                               | 862                                                                               | 0                                                                                 | 443                                                                               | 0                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment             | Left                                                                              | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Right                                                                             |
| Median Width(ft)           |                                                                                   | 12                                                                                | 12                                                                                |                                                                                   | 12                                                                                |                                                                                   |
| Link Offset(ft)            |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 |                                                                                   |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                | 16                                                                                |                                                                                   | 16                                                                                |                                                                                   |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (mph)        | 15                                                                                |                                                                                   |                                                                                   | 9                                                                                 | 15                                                                                | 9                                                                                 |
| Sign Control               |                                                                                   | Free                                                                              | Free                                                                              |                                                                                   | Stop                                                                              |                                                                                   |

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 98.2%

ICU Level of Service F

Analysis Period (min) 15



HCM 6th TWSC  
4: Route 31 & Lakeshore Road

07/05/2022

Intersection

| Int Delay, s/veh         | 30.5                                                                              |                                                                                   |                                                                                   |      |                                                                                   |      |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|------|
| Movement                 | EBL                                                                               | EBT                                                                               | WBT                                                                               | WBR  | SBL                                                                               | SBR  |
| Lane Configurations      |  |  |  |      |  |      |
| Traffic Vol, veh/h       | 419                                                                               | 787                                                                               | 750                                                                               | 0    | 0                                                                                 | 412  |
| Future Vol, veh/h        | 419                                                                               | 787                                                                               | 750                                                                               | 0    | 0                                                                                 | 412  |
| Conflicting Peds, #/hr   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0    | 0                                                                                 | 0    |
| Sign Control             | Free                                                                              | Free                                                                              | Free                                                                              | Free | Stop                                                                              | Stop |
| RT Channelized           | -                                                                                 | None                                                                              | -                                                                                 | None | -                                                                                 | None |
| Storage Length           | 225                                                                               | -                                                                                 | -                                                                                 | -    | 0                                                                                 | -    |
| Veh in Median Storage, # | -                                                                                 | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Grade, %                 | -                                                                                 | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Peak Hour Factor         | 93                                                                                | 93                                                                                | 87                                                                                | 87   | 93                                                                                | 93   |
| Heavy Vehicles, %        | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1    | 1                                                                                 | 1    |
| Mvmt Flow                | 451                                                                               | 846                                                                               | 862                                                                               | 0    | 0                                                                                 | 443  |

| Major/Minor          | Major1 | Major2 | Minor2          |
|----------------------|--------|--------|-----------------|
| Conflicting Flow All | 862    | 0      | 0 2187 862      |
| Stage 1              | -      | -      | - 862 -         |
| Stage 2              | -      | -      | - 1325 -        |
| Critical Hdwy        | 4.115  | -      | - 6.615 6.215   |
| Critical Hdwy Stg 1  | -      | -      | - 5.415 -       |
| Critical Hdwy Stg 2  | -      | -      | - 5.815 -       |
| Follow-up Hdwy       | 2.2095 | -      | - 3.5095 3.3095 |
| Pot Cap-1 Maneuver   | 783    | -      | - 45 ~ 356      |
| Stage 1              | -      | -      | - 415 -         |
| Stage 2              | -      | -      | - 215 -         |
| Platoon blocked, %   | -      | -      | -               |
| Mov Cap-1 Maneuver   | 783    | -      | - 19 ~ 356      |
| Mov Cap-2 Maneuver   | -      | -      | - 19 -          |
| Stage 1              | -      | -      | - 176 -         |
| Stage 2              | -      | -      | - 215 -         |

| Approach             | EB  | WB | SB    |
|----------------------|-----|----|-------|
| HCM Control Delay, s | 5.4 | 0  | 163.3 |
| HCM LOS              |     |    | F     |

| Minor Lane/Major Mvmt | EBL   | EBT | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-----|-------|
| Capacity (veh/h)      | 783   | -   | -   | -   | 356   |
| HCM Lane V/C Ratio    | 0.575 | -   | -   | -   | 1.244 |
| HCM Control Delay (s) | 15.6  | -   | -   | -   | 163.3 |
| HCM Lane LOS          | C     | -   | -   | -   | F     |
| HCM 95th %tile Q(veh) | 3.7   | -   | -   | -   | 19.4  |

Notes

~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon



Lanes, Volumes, Timings  
5: South Bay Road & Route 31

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (vph)       | 33                                                                                | 401                                                                               | 64                                                                                | 164                                                                               | 415                                                                               | 20                                                                                | 66                                                                                | 137                                                                                 | 137                                                                                 | 12                                                                                  | 155                                                                                 | 56                                                                                  |
| Future Volume (vph)        | 33                                                                                | 401                                                                               | 64                                                                                | 164                                                                               | 415                                                                               | 20                                                                                | 66                                                                                | 137                                                                                 | 137                                                                                 | 12                                                                                  | 155                                                                                 | 56                                                                                  |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Satd. Flow (prot)          | 0                                                                                 | 1844                                                                              | 0                                                                                 | 0                                                                                 | 1849                                                                              | 0                                                                                 | 0                                                                                 | 1714                                                                                | 0                                                                                   | 0                                                                                   | 1766                                                                                | 0                                                                                   |
| Flt Permitted              |                                                                                   | 0.931                                                                             |                                                                                   |                                                                                   | 0.706                                                                             |                                                                                   |                                                                                   | 0.826                                                                               |                                                                                     |                                                                                     | 0.966                                                                               |                                                                                     |
| Satd. Flow (perm)          | 0                                                                                 | 1722                                                                              | 0                                                                                 | 0                                                                                 | 1321                                                                              | 0                                                                                 | 0                                                                                 | 1429                                                                                | 0                                                                                   | 0                                                                                   | 1711                                                                                | 0                                                                                   |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   | 14                                                                                |                                                                                   |                                                                                   | 3                                                                                 |                                                                                   |                                                                                   | 50                                                                                  |                                                                                     |                                                                                     | 26                                                                                  |                                                                                     |
| Link Speed (mph)           |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 55                                                                                |                                                                                   |                                                                                   | 45                                                                                  |                                                                                     |                                                                                     | 45                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 788                                                                               |                                                                                   |                                                                                   | 825                                                                               |                                                                                   |                                                                                   | 794                                                                                 |                                                                                     |                                                                                     | 652                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 11.9                                                                              |                                                                                   |                                                                                   | 10.2                                                                              |                                                                                   |                                                                                   | 12.0                                                                                |                                                                                     |                                                                                     | 9.9                                                                                 |                                                                                     |
| Confl. Peds. (#/hr)        |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 3                                                                                 |                                                                                     | 2                                                                                   | 2                                                                                   |                                                                                     | 3                                                                                   |
| Peak Hour Factor           | 0.89                                                                              | 0.89                                                                              | 0.89                                                                              | 1.00                                                                              | 0.86                                                                              | 0.86                                                                              | 0.80                                                                              | 0.88                                                                                | 0.88                                                                                | 0.73                                                                                | 0.73                                                                                | 0.73                                                                                |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 3%                                                                                | 3%                                                                                  | 3%                                                                                  | 3%                                                                                  | 3%                                                                                  | 3%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 0                                                                                 | 560                                                                               | 0                                                                                 | 0                                                                                 | 670                                                                               | 0                                                                                 | 0                                                                                 | 395                                                                                 | 0                                                                                   | 0                                                                                   | 305                                                                                 | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                  |                                                                                     | Perm                                                                                | NA                                                                                  |                                                                                     |
| Protected Phases           |                                                                                   | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                   |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |
| Permitted Phases           | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |                                                                                     |
| Detector Phase             | 2                                                                                 | 2                                                                                 |                                                                                   | 6                                                                                 | 6                                                                                 |                                                                                   | 8                                                                                 | 8                                                                                   |                                                                                     | 4                                                                                   | 4                                                                                   |                                                                                     |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 15.0                                                                              | 15.0                                                                              |                                                                                   | 15.0                                                                              | 15.0                                                                              |                                                                                   | 10.0                                                                              | 10.0                                                                                |                                                                                     | 10.0                                                                                | 10.0                                                                                |                                                                                     |
| Minimum Split (s)          | 22.8                                                                              | 22.8                                                                              |                                                                                   | 22.8                                                                              | 22.8                                                                              |                                                                                   | 16.8                                                                              | 16.8                                                                                |                                                                                     | 16.8                                                                                | 16.8                                                                                |                                                                                     |
| Total Split (s)            | 40.0                                                                              | 40.0                                                                              |                                                                                   | 40.0                                                                              | 40.0                                                                              |                                                                                   | 30.0                                                                              | 30.0                                                                                |                                                                                     | 30.0                                                                                | 30.0                                                                                |                                                                                     |
| Total Split (%)            | 57.1%                                                                             | 57.1%                                                                             |                                                                                   | 57.1%                                                                             | 57.1%                                                                             |                                                                                   | 42.9%                                                                             | 42.9%                                                                               |                                                                                     | 42.9%                                                                               | 42.9%                                                                               |                                                                                     |
| Maximum Green (s)          | 32.2                                                                              | 32.2                                                                              |                                                                                   | 32.2                                                                              | 32.2                                                                              |                                                                                   | 23.2                                                                              | 23.2                                                                                |                                                                                     | 23.2                                                                                | 23.2                                                                                |                                                                                     |
| Yellow Time (s)            | 4.9                                                                               | 4.9                                                                               |                                                                                   | 4.9                                                                               | 4.9                                                                               |                                                                                   | 4.9                                                                               | 4.9                                                                                 |                                                                                     | 4.9                                                                                 | 4.9                                                                                 |                                                                                     |
| All-Red Time (s)           | 2.9                                                                               | 2.9                                                                               |                                                                                   | 2.9                                                                               | 2.9                                                                               |                                                                                   | 1.9                                                                               | 1.9                                                                                 |                                                                                     | 1.9                                                                                 | 1.9                                                                                 |                                                                                     |
| Lost Time Adjust (s)       |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                                 |                                                                                     |                                                                                     | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)        |                                                                                   | 7.8                                                                               |                                                                                   |                                                                                   | 7.8                                                                               |                                                                                   |                                                                                   | 6.8                                                                                 |                                                                                     |                                                                                     | 6.8                                                                                 |                                                                                     |
| Lead/Lag                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?         |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Vehicle Extension (s)      | 6.0                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                               | 6.0                                                                                 |                                                                                     | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |
| Minimum Gap (s)            | 2.0                                                                               | 2.0                                                                               |                                                                                   | 2.0                                                                               | 2.0                                                                               |                                                                                   | 2.0                                                                               | 2.0                                                                                 |                                                                                     | 2.0                                                                                 | 2.0                                                                                 |                                                                                     |
| Time Before Reduce (s)     | 10.0                                                                              | 10.0                                                                              |                                                                                   | 10.0                                                                              | 10.0                                                                              |                                                                                   | 10.0                                                                              | 10.0                                                                                |                                                                                     | 10.0                                                                                | 10.0                                                                                |                                                                                     |
| Time To Reduce (s)         | 15.0                                                                              | 15.0                                                                              |                                                                                   | 15.0                                                                              | 15.0                                                                              |                                                                                   | 15.0                                                                              | 15.0                                                                                |                                                                                     | 15.0                                                                                | 15.0                                                                                |                                                                                     |
| Recall Mode                | Max                                                                               | Max                                                                               |                                                                                   | Max                                                                               | Max                                                                               |                                                                                   | Max                                                                               | Max                                                                                 |                                                                                     | Max                                                                                 | Max                                                                                 |                                                                                     |
| Act Effect Green (s)       |                                                                                   | 32.2                                                                              |                                                                                   |                                                                                   | 32.2                                                                              |                                                                                   |                                                                                   | 23.2                                                                                |                                                                                     |                                                                                     | 23.2                                                                                |                                                                                     |
| Actuated g/C Ratio         |                                                                                   | 0.46                                                                              |                                                                                   |                                                                                   | 0.46                                                                              |                                                                                   |                                                                                   | 0.33                                                                                |                                                                                     |                                                                                     | 0.33                                                                                |                                                                                     |
| v/c Ratio                  |                                                                                   | 0.70                                                                              |                                                                                   |                                                                                   | 1.10                                                                              |                                                                                   |                                                                                   | 0.78                                                                                |                                                                                     |                                                                                     | 0.52                                                                                |                                                                                     |



# Lanes, Volumes, Timings

## 5: South Bay Road & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Control Delay           |                                                                                   | 20.5                                                                              |                                                                                   |                                                                                   | 89.2                                                                              |                                                                                   |                                                                                    | 31.3                                                                                |                                                                                     |                                                                                     | 21.1                                                                                |                                                                                     |
| Queue Delay             |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                    | 0.0                                                                                 |                                                                                     |                                                                                     | 0.0                                                                                 |                                                                                     |
| Total Delay             |                                                                                   | 20.5                                                                              |                                                                                   |                                                                                   | 89.2                                                                              |                                                                                   |                                                                                    | 31.3                                                                                |                                                                                     |                                                                                     | 21.1                                                                                |                                                                                     |
| LOS                     |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | F                                                                                 |                                                                                   |                                                                                    | C                                                                                   |                                                                                     |                                                                                     | C                                                                                   |                                                                                     |
| Approach Delay          |                                                                                   | 20.5                                                                              |                                                                                   |                                                                                   | 89.2                                                                              |                                                                                   |                                                                                    | 31.3                                                                                |                                                                                     |                                                                                     | 21.1                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | F                                                                                 |                                                                                   |                                                                                    | C                                                                                   |                                                                                     |                                                                                     | C                                                                                   |                                                                                     |
| Queue Length 50th (ft)  |                                                                                   | 178                                                                               |                                                                                   |                                                                                   | ~336                                                                              |                                                                                   |                                                                                    | 132                                                                                 |                                                                                     |                                                                                     | 95                                                                                  |                                                                                     |
| Queue Length 95th (ft)  |                                                                                   | 285                                                                               |                                                                                   |                                                                                   | #496                                                                              |                                                                                   |                                                                                    | #261                                                                                |                                                                                     |                                                                                     | 124                                                                                 |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 708                                                                               |                                                                                   |                                                                                   | 745                                                                               |                                                                                   |                                                                                    | 714                                                                                 |                                                                                     |                                                                                     | 572                                                                                 |                                                                                     |
| Turn Bay Length (ft)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Base Capacity (vph)     |                                                                                   | 799                                                                               |                                                                                   |                                                                                   | 609                                                                               |                                                                                   |                                                                                    | 507                                                                                 |                                                                                     |                                                                                     | 584                                                                                 |                                                                                     |
| Starvation Cap Reductn  |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                    | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                    | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                    | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       |                                                                                   | 0.70                                                                              |                                                                                   |                                                                                   | 1.10                                                                              |                                                                                   |                                                                                    | 0.78                                                                                |                                                                                     |                                                                                     | 0.52                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Natural Cycle: 75

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 1.10

Intersection Signal Delay: 46.7

Intersection LOS: D

Intersection Capacity Utilization 114.9%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 5: South Bay Road & Route 31

|                                                                                        |                                                                                        |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
|  Ø2 |  Ø4 |
| 40 s                                                                                   | 30 s                                                                                   |
|  Ø6 |  Ø8 |
| 40 s                                                                                   | 30 s                                                                                   |



Lanes, Volumes, Timings  
6: Cicero Center Road & Route 31

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (vph)       | 40                                                                                | 434                                                                               | 7                                                                                 | 3                                                                                 | 377                                                                               | 10                                                                                | 7                                                                                 | 13                                                                                  | 6                                                                                   | 15                                                                                  | 3                                                                                   | 25                                                                                  |
| Future Volume (vph)        | 40                                                                                | 434                                                                               | 7                                                                                 | 3                                                                                 | 377                                                                               | 10                                                                                | 7                                                                                 | 13                                                                                  | 6                                                                                   | 15                                                                                  | 3                                                                                   | 25                                                                                  |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Satd. Flow (prot)          | 0                                                                                 | 1870                                                                              | 0                                                                                 | 0                                                                                 | 1876                                                                              | 0                                                                                 | 0                                                                                 | 1797                                                                                | 0                                                                                   | 0                                                                                   | 1682                                                                                | 0                                                                                   |
| Flt Permitted              |                                                                                   | 0.944                                                                             |                                                                                   |                                                                                   | 0.997                                                                             |                                                                                   |                                                                                   | 0.902                                                                               |                                                                                     |                                                                                     | 0.961                                                                               |                                                                                     |
| Satd. Flow (perm)          | 0                                                                                 | 1772                                                                              | 0                                                                                 | 0                                                                                 | 1870                                                                              | 0                                                                                 | 0                                                                                 | 1642                                                                                | 0                                                                                   | 0                                                                                   | 1644                                                                                | 0                                                                                   |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   | 2                                                                                 |                                                                                   |                                                                                   | 3                                                                                 |                                                                                   |                                                                                   | 9                                                                                   |                                                                                     |                                                                                     | 32                                                                                  |                                                                                     |
| Link Speed (mph)           |                                                                                   | 55                                                                                |                                                                                   |                                                                                   | 55                                                                                |                                                                                   |                                                                                   | 55                                                                                  |                                                                                     |                                                                                     | 55                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 583                                                                               |                                                                                   |                                                                                   | 608                                                                               |                                                                                   |                                                                                   | 500                                                                                 |                                                                                     |                                                                                     | 505                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 7.2                                                                               |                                                                                   |                                                                                   | 7.5                                                                               |                                                                                   |                                                                                   | 6.2                                                                                 |                                                                                     |                                                                                     | 6.3                                                                                 |                                                                                     |
| Confl. Peds. (#/hr)        |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 1                                                                                   |
| Peak Hour Factor           | 0.95                                                                              | 0.95                                                                              | 0.95                                                                              | 0.87                                                                              | 0.87                                                                              | 0.87                                                                              | 0.69                                                                              | 0.69                                                                                | 0.69                                                                                | 0.79                                                                                | 0.79                                                                                | 0.79                                                                                |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 0                                                                                 | 506                                                                               | 0                                                                                 | 0                                                                                 | 447                                                                               | 0                                                                                 | 0                                                                                 | 38                                                                                  | 0                                                                                   | 0                                                                                   | 55                                                                                  | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                  |                                                                                     | Perm                                                                                | NA                                                                                  |                                                                                     |
| Protected Phases           |                                                                                   | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                   |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |
| Permitted Phases           | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |                                                                                     |
| Detector Phase             | 2                                                                                 | 2                                                                                 |                                                                                   | 6                                                                                 | 6                                                                                 |                                                                                   | 8                                                                                 | 8                                                                                   |                                                                                     | 4                                                                                   | 4                                                                                   |                                                                                     |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 15.0                                                                              | 15.0                                                                              |                                                                                   | 15.0                                                                              | 15.0                                                                              |                                                                                   | 7.0                                                                               | 7.0                                                                                 |                                                                                     | 7.0                                                                                 | 7.0                                                                                 |                                                                                     |
| Minimum Split (s)          | 21.0                                                                              | 21.0                                                                              |                                                                                   | 21.0                                                                              | 21.0                                                                              |                                                                                   | 12.0                                                                              | 12.0                                                                                |                                                                                     | 12.0                                                                                | 12.0                                                                                |                                                                                     |
| Total Split (s)            | 30.0                                                                              | 30.0                                                                              |                                                                                   | 30.0                                                                              | 30.0                                                                              |                                                                                   | 20.0                                                                              | 20.0                                                                                |                                                                                     | 20.0                                                                                | 20.0                                                                                |                                                                                     |
| Total Split (%)            | 60.0%                                                                             | 60.0%                                                                             |                                                                                   | 60.0%                                                                             | 60.0%                                                                             |                                                                                   | 40.0%                                                                             | 40.0%                                                                               |                                                                                     | 40.0%                                                                               | 40.0%                                                                               |                                                                                     |
| Maximum Green (s)          | 24.0                                                                              | 24.0                                                                              |                                                                                   | 24.0                                                                              | 24.0                                                                              |                                                                                   | 15.0                                                                              | 15.0                                                                                |                                                                                     | 15.0                                                                                | 15.0                                                                                |                                                                                     |
| Yellow Time (s)            | 4.0                                                                               | 4.0                                                                               |                                                                                   | 4.0                                                                               | 4.0                                                                               |                                                                                   | 4.0                                                                               | 4.0                                                                                 |                                                                                     | 4.0                                                                                 | 4.0                                                                                 |                                                                                     |
| All-Red Time (s)           | 2.0                                                                               | 2.0                                                                               |                                                                                   | 2.0                                                                               | 2.0                                                                               |                                                                                   | 1.0                                                                               | 1.0                                                                                 |                                                                                     | 1.0                                                                                 | 1.0                                                                                 |                                                                                     |
| Lost Time Adjust (s)       |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                                 |                                                                                     |                                                                                     | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)        |                                                                                   | 6.0                                                                               |                                                                                   |                                                                                   | 6.0                                                                               |                                                                                   |                                                                                   | 5.0                                                                                 |                                                                                     |                                                                                     | 5.0                                                                                 |                                                                                     |
| Lead/Lag                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?         |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Vehicle Extension (s)      | 5.0                                                                               | 5.0                                                                               |                                                                                   | 5.0                                                                               | 5.0                                                                               |                                                                                   | 2.0                                                                               | 2.0                                                                                 |                                                                                     | 2.0                                                                                 | 2.0                                                                                 |                                                                                     |
| Recall Mode                | Max                                                                               | Max                                                                               |                                                                                   | Max                                                                               | Max                                                                               |                                                                                   | None                                                                              | None                                                                                |                                                                                     | None                                                                                | None                                                                                |                                                                                     |
| Act Effect Green (s)       |                                                                                   | 34.2                                                                              |                                                                                   |                                                                                   | 34.2                                                                              |                                                                                   |                                                                                   | 7.2                                                                                 |                                                                                     |                                                                                     | 7.2                                                                                 |                                                                                     |
| Actuated g/C Ratio         |                                                                                   | 0.83                                                                              |                                                                                   |                                                                                   | 0.83                                                                              |                                                                                   |                                                                                   | 0.17                                                                                |                                                                                     |                                                                                     | 0.17                                                                                |                                                                                     |
| v/c Ratio                  |                                                                                   | 0.35                                                                              |                                                                                   |                                                                                   | 0.29                                                                              |                                                                                   |                                                                                   | 0.13                                                                                |                                                                                     |                                                                                     | 0.18                                                                                |                                                                                     |
| Control Delay              |                                                                                   | 4.2                                                                               |                                                                                   |                                                                                   | 3.8                                                                               |                                                                                   |                                                                                   | 13.1                                                                                |                                                                                     |                                                                                     | 10.4                                                                                |                                                                                     |
| Queue Delay                |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                                 |                                                                                     |                                                                                     | 0.0                                                                                 |                                                                                     |
| Total Delay                |                                                                                   | 4.2                                                                               |                                                                                   |                                                                                   | 3.8                                                                               |                                                                                   |                                                                                   | 13.1                                                                                |                                                                                     |                                                                                     | 10.4                                                                                |                                                                                     |



# Lanes, Volumes, Timings

## 6: Cicero Center Road & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| LOS                     |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | B                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| Approach Delay          |                                                                                   | 4.2                                                                               |                                                                                   |                                                                                   | 3.8                                                                               |                                                                                   |                                                                                   | 13.1                                                                                |                                                                                     |                                                                                     | 10.4                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | B                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| Queue Length 50th (ft)  |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 4                                                                                   |                                                                                     |                                                                                     | 3                                                                                   |                                                                                     |
| Queue Length 95th (ft)  |                                                                                   | 115                                                                               |                                                                                   |                                                                                   | 89                                                                                |                                                                                   |                                                                                   | 17                                                                                  |                                                                                     |                                                                                     | 22                                                                                  |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 503                                                                               |                                                                                   |                                                                                   | 528                                                                               |                                                                                   |                                                                                   | 420                                                                                 |                                                                                     |                                                                                     | 425                                                                                 |                                                                                     |
| Turn Bay Length (ft)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Base Capacity (vph)     |                                                                                   | 1466                                                                              |                                                                                   |                                                                                   | 1548                                                                              |                                                                                   |                                                                                   | 612                                                                                 |                                                                                     |                                                                                     | 627                                                                                 |                                                                                     |
| Starvation Cap Reductn  |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       |                                                                                   | 0.35                                                                              |                                                                                   |                                                                                   | 0.29                                                                              |                                                                                   |                                                                                   | 0.06                                                                                |                                                                                     |                                                                                     | 0.09                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Cycle Length: 50

Actuated Cycle Length: 41.3

Natural Cycle: 40

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.35

Intersection Signal Delay: 4.7

Intersection Capacity Utilization 65.7%

Analysis Period (min) 15

Intersection LOS: A

ICU Level of Service C

Splits and Phases: 6: Cicero Center Road & Route 31

|                                                                                        |  |                                                                                        |
|----------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------|
|  Ø2 |  |  Ø4 |
| 30 s                                                                                   |  | 20 s                                                                                   |
|  Ø6 |  |  Ø8 |
| 30 s                                                                                   |  | 20 s                                                                                   |



Lanes, Volumes, Timings  
7: Route 31 & Lakeshore Road (East)

07/05/2022

|                            |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | WBT                                                                               | WBR                                                                               | SBL                                                                               | SBR                                                                               |
| Lane Configurations        |                                                                                   |  |  |                                                                                   |  |                                                                                   |
| Traffic Volume (vph)       | 52                                                                                | 405                                                                               | 357                                                                               | 53                                                                                | 56                                                                                | 31                                                                                |
| Future Volume (vph)        | 52                                                                                | 405                                                                               | 357                                                                               | 53                                                                                | 56                                                                                | 31                                                                                |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Satd. Flow (prot)          | 0                                                                                 | 1876                                                                              | 1849                                                                              | 0                                                                                 | 1735                                                                              | 0                                                                                 |
| Flt Permitted              |                                                                                   | 0.997                                                                             |                                                                                   |                                                                                   | 0.969                                                                             |                                                                                   |
| Satd. Flow (perm)          | 0                                                                                 | 1876                                                                              | 1849                                                                              | 0                                                                                 | 1735                                                                              | 0                                                                                 |
| Link Speed (mph)           |                                                                                   | 55                                                                                | 55                                                                                |                                                                                   | 35                                                                                |                                                                                   |
| Link Distance (ft)         |                                                                                   | 516                                                                               | 592                                                                               |                                                                                   | 420                                                                               |                                                                                   |
| Travel Time (s)            |                                                                                   | 6.4                                                                               | 7.3                                                                               |                                                                                   | 8.2                                                                               |                                                                                   |
| Peak Hour Factor           | 0.89                                                                              | 0.89                                                                              | 0.88                                                                              | 0.88                                                                              | 0.83                                                                              | 0.83                                                                              |
| Growth Factor              | 50%                                                                               | 100%                                                                              | 100%                                                                              | 100%                                                                              | 100%                                                                              | 100%                                                                              |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)      | 0                                                                                 | 484                                                                               | 466                                                                               | 0                                                                                 | 104                                                                               | 0                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment             | Left                                                                              | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Right                                                                             |
| Median Width(ft)           |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 12                                                                                |                                                                                   |
| Link Offset(ft)            |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 |                                                                                   |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                | 16                                                                                |                                                                                   | 16                                                                                |                                                                                   |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (mph)        | 15                                                                                |                                                                                   |                                                                                   | 9                                                                                 | 15                                                                                | 9                                                                                 |
| Sign Control               |                                                                                   | Free                                                                              | Free                                                                              |                                                                                   | Stop                                                                              |                                                                                   |

Intersection Summary

Area Type: Other  
Control Type: Unsignalized  
Intersection Capacity Utilization 54.3%  
Analysis Period (min) 15

ICU Level of Service A



HCM 6th TWSC  
7: Route 31 & Lakeshore Road (East)

07/05/2022

Intersection

Int Delay, s/veh 2.2

| Movement                 | EBL  | EBT                                                                               | WBT                                                                               | WBR  | SBL                                                                               | SBR  |
|--------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|------|
| Lane Configurations      |      |  |  |      |  |      |
| Traffic Vol, veh/h       | 52   | 405                                                                               | 357                                                                               | 53   | 56                                                                                | 31   |
| Future Vol, veh/h        | 52   | 405                                                                               | 357                                                                               | 53   | 56                                                                                | 31   |
| Conflicting Peds, #/hr   | 0    | 0                                                                                 | 0                                                                                 | 0    | 0                                                                                 | 0    |
| Sign Control             | Free | Free                                                                              | Free                                                                              | Free | Stop                                                                              | Stop |
| RT Channelized           | -    | None                                                                              | -                                                                                 | None | -                                                                                 | None |
| Storage Length           | -    | -                                                                                 | -                                                                                 | -    | 0                                                                                 | -    |
| Veh in Median Storage, # | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Grade, %                 | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Peak Hour Factor         | 89   | 89                                                                                | 88                                                                                | 88   | 83                                                                                | 83   |
| Heavy Vehicles, %        | 1    | 1                                                                                 | 1                                                                                 | 1    | 1                                                                                 | 1    |
| Mvmt Flow                | 29   | 455                                                                               | 406                                                                               | 60   | 67                                                                                | 37   |

| Major/Minor          | Major1 | Major2 | Minor2        |
|----------------------|--------|--------|---------------|
| Conflicting Flow All | 466    | 0      | 0 949 436     |
| Stage 1              | -      | -      | - 436 -       |
| Stage 2              | -      | -      | - 513 -       |
| Critical Hdwy        | 4.11   | -      | - 6.41 6.21   |
| Critical Hdwy Stg 1  | -      | -      | - 5.41 -      |
| Critical Hdwy Stg 2  | -      | -      | - 5.41 -      |
| Follow-up Hdwy       | 2.209  | -      | - 3.509 3.309 |
| Pot Cap-1 Maneuver   | 1101   | -      | - 290 622     |
| Stage 1              | -      | -      | - 654 -       |
| Stage 2              | -      | -      | - 603 -       |
| Platoon blocked, %   | -      | -      | -             |
| Mov Cap-1 Maneuver   | 1101   | -      | - 280 622     |
| Mov Cap-2 Maneuver   | -      | -      | - 280 -       |
| Stage 1              | -      | -      | - 631 -       |
| Stage 2              | -      | -      | - 603 -       |

| Approach             | EB  | WB | SB   |
|----------------------|-----|----|------|
| HCM Control Delay, s | 0.5 | 0  | 19.7 |
| HCM LOS              |     |    | C    |

| Minor Lane/Major Mvmt | EBL   | EBT | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-----|-------|
| Capacity (veh/h)      | 1101  | -   | -   | -   | 348   |
| HCM Lane V/C Ratio    | 0.027 | -   | -   | -   | 0.301 |
| HCM Control Delay (s) | 8.4   | 0   | -   | -   | 19.7  |
| HCM Lane LOS          | A     | A   | -   | -   | C     |
| HCM 95th %tile Q(veh) | 0.1   | -   | -   | -   | 1.2   |



# Lanes, Volumes, Timings

## 8: Thompson Road & South Bay Road

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |  |  |                                                                                   |  |  |                                                                                   |                                                                                   |  |  |                                                                                     |  |  |
| Traffic Volume (vph)       | 201                                                                               | 308                                                                               | 3                                                                                 | 92                                                                                | 275                                                                               | 15                                                                                | 8                                                                                 | 139                                                                                 | 120                                                                                 | 15                                                                                  | 143                                                                                 | 162                                                                                 |
| Future Volume (vph)        | 201                                                                               | 308                                                                               | 3                                                                                 | 92                                                                                | 275                                                                               | 15                                                                                | 8                                                                                 | 139                                                                                 | 120                                                                                 | 15                                                                                  | 143                                                                                 | 162                                                                                 |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 300                                                                               |                                                                                   | 0                                                                                 | 250                                                                               |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                     | 210                                                                                 | 0                                                                                   |                                                                                     | 600                                                                                 |
| Storage Lanes              | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                     | 1                                                                                   | 0                                                                                   |                                                                                     | 1                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 1787                                                                              | 1879                                                                              | 0                                                                                 | 1787                                                                              | 1866                                                                              | 0                                                                                 | 0                                                                                 | 1876                                                                                | 1599                                                                                | 0                                                                                   | 1872                                                                                | 1599                                                                                |
| Flt Permitted              | 0.395                                                                             |                                                                                   |                                                                                   | 0.413                                                                             |                                                                                   |                                                                                   |                                                                                   | 0.983                                                                               |                                                                                     |                                                                                     | 0.965                                                                               |                                                                                     |
| Satd. Flow (perm)          | 743                                                                               | 1879                                                                              | 0                                                                                 | 777                                                                               | 1866                                                                              | 0                                                                                 | 0                                                                                 | 1849                                                                                | 1599                                                                                | 0                                                                                   | 1815                                                                                | 1599                                                                                |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   | 1                                                                                 |                                                                                   |                                                                                   | 4                                                                                 |                                                                                   |                                                                                   |                                                                                     | 140                                                                                 |                                                                                     |                                                                                     | 176                                                                                 |
| Link Speed (mph)           |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 45                                                                                  |                                                                                     |                                                                                     | 45                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 1324                                                                              |                                                                                   |                                                                                   | 1155                                                                              |                                                                                   |                                                                                   | 1095                                                                                |                                                                                     |                                                                                     | 1033                                                                                |                                                                                     |
| Travel Time (s)            |                                                                                   | 20.1                                                                              |                                                                                   |                                                                                   | 17.5                                                                              |                                                                                   |                                                                                   | 16.6                                                                                |                                                                                     |                                                                                     | 15.7                                                                                |                                                                                     |
| Peak Hour Factor           | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.89                                                                              | 0.89                                                                              | 0.89                                                                              | 0.86                                                                              | 0.86                                                                                | 0.86                                                                                | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 216                                                                               | 334                                                                               | 0                                                                                 | 103                                                                               | 326                                                                               | 0                                                                                 | 0                                                                                 | 171                                                                                 | 140                                                                                 | 0                                                                                   | 171                                                                                 | 176                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                             | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                  | pm+ov                                                                               | Perm                                                                                | NA                                                                                  | pm+ov                                                                               |
| Protected Phases           | 7                                                                                 | 4                                                                                 |                                                                                   | 3                                                                                 | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                   | 3                                                                                   |                                                                                     | 6                                                                                   | 7                                                                                   |
| Permitted Phases           | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                 |                                                                                     | 2                                                                                   | 6                                                                                   |                                                                                     | 6                                                                                   |
| Detector Phase             | 7                                                                                 | 4                                                                                 |                                                                                   | 3                                                                                 | 8                                                                                 |                                                                                   | 2                                                                                 | 2                                                                                   | 3                                                                                   | 6                                                                                   | 6                                                                                   | 7                                                                                   |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 5.0                                                                               | 10.0                                                                              |                                                                                   | 5.0                                                                               | 5.0                                                                               |                                                                                   | 10.0                                                                              | 10.0                                                                                | 5.0                                                                                 | 10.0                                                                                | 10.0                                                                                | 5.0                                                                                 |
| Minimum Split (s)          | 12.0                                                                              | 17.0                                                                              |                                                                                   | 12.0                                                                              | 12.0                                                                              |                                                                                   | 16.5                                                                              | 16.5                                                                                | 12.0                                                                                | 16.5                                                                                | 16.5                                                                                | 12.0                                                                                |
| Total Split (s)            | 15.0                                                                              | 30.0                                                                              |                                                                                   | 15.0                                                                              | 30.0                                                                              |                                                                                   | 30.0                                                                              | 30.0                                                                                | 15.0                                                                                | 30.0                                                                                | 30.0                                                                                | 15.0                                                                                |
| Total Split (%)            | 20.0%                                                                             | 40.0%                                                                             |                                                                                   | 20.0%                                                                             | 40.0%                                                                             |                                                                                   | 40.0%                                                                             | 40.0%                                                                               | 20.0%                                                                               | 40.0%                                                                               | 40.0%                                                                               | 20.0%                                                                               |
| Maximum Green (s)          | 8.0                                                                               | 23.0                                                                              |                                                                                   | 8.0                                                                               | 23.0                                                                              |                                                                                   | 23.5                                                                              | 23.5                                                                                | 8.0                                                                                 | 23.5                                                                                | 23.5                                                                                | 8.0                                                                                 |
| Yellow Time (s)            | 4.0                                                                               | 4.0                                                                               |                                                                                   | 4.0                                                                               | 4.0                                                                               |                                                                                   | 3.5                                                                               | 3.5                                                                                 | 4.0                                                                                 | 3.5                                                                                 | 3.5                                                                                 | 4.0                                                                                 |
| All-Red Time (s)           | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |
| Lost Time Adjust (s)       | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                                 | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |
| Total Lost Time (s)        | 7.0                                                                               | 7.0                                                                               |                                                                                   | 7.0                                                                               | 7.0                                                                               |                                                                                   |                                                                                   | 6.5                                                                                 | 7.0                                                                                 |                                                                                     | 6.5                                                                                 | 7.0                                                                                 |
| Lead/Lag                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                              | Lag                                                                               |                                                                                   |                                                                                   |                                                                                     | Lead                                                                                |                                                                                     |                                                                                     | Lead                                                                                |
| Lead-Lag Optimize?         | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                               | Yes                                                                               |                                                                                   |                                                                                   |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Vehicle Extension (s)      | 3.0                                                                               | 2.0                                                                               |                                                                                   | 3.0                                                                               | 2.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |
| Recall Mode                | None                                                                              | Min                                                                               |                                                                                   | None                                                                              | Min                                                                               |                                                                                   | Max                                                                               | Max                                                                                 | None                                                                                | Max                                                                                 | Max                                                                                 | None                                                                                |
| Act Effct Green (s)        | 24.7                                                                              | 16.7                                                                              |                                                                                   | 23.5                                                                              | 16.1                                                                              |                                                                                   |                                                                                   | 23.6                                                                                | 37.5                                                                                |                                                                                     | 23.6                                                                                | 38.1                                                                                |
| Actuated g/C Ratio         | 0.36                                                                              | 0.24                                                                              |                                                                                   | 0.34                                                                              | 0.24                                                                              |                                                                                   |                                                                                   | 0.35                                                                                | 0.55                                                                                |                                                                                     | 0.35                                                                                | 0.56                                                                                |
| v/c Ratio                  | 0.56                                                                              | 0.73                                                                              |                                                                                   | 0.27                                                                              | 0.74                                                                              |                                                                                   |                                                                                   | 0.27                                                                                | 0.15                                                                                |                                                                                     | 0.27                                                                                | 0.18                                                                                |
| Control Delay              | 17.7                                                                              | 33.4                                                                              |                                                                                   | 12.7                                                                              | 34.1                                                                              |                                                                                   |                                                                                   | 18.9                                                                                | 2.4                                                                                 |                                                                                     | 19.0                                                                                | 2.2                                                                                 |



# Lanes, Volumes, Timings

## 8: Thompson Road & South Bay Road

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Queue Delay             | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                    | 0.0                                                                                 | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |
| Total Delay             | 17.7                                                                              | 33.4                                                                              |                                                                                   | 12.7                                                                              | 34.1                                                                              |                                                                                   |                                                                                    | 18.9                                                                                | 2.4                                                                                 |                                                                                     | 19.0                                                                                | 2.2                                                                                 |
| LOS                     | B                                                                                 | C                                                                                 |                                                                                   | B                                                                                 | C                                                                                 |                                                                                   |                                                                                    | B                                                                                   | A                                                                                   |                                                                                     | B                                                                                   | A                                                                                   |
| Approach Delay          |                                                                                   | 27.2                                                                              |                                                                                   |                                                                                   | 28.9                                                                              |                                                                                   |                                                                                    | 11.4                                                                                |                                                                                     |                                                                                     | 10.5                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                    | B                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 53                                                                                | 129                                                                               |                                                                                   | 24                                                                                | 124                                                                               |                                                                                   |                                                                                    | 51                                                                                  | 0                                                                                   |                                                                                     | 51                                                                                  | 0                                                                                   |
| Queue Length 95th (ft)  | 92                                                                                | 210                                                                               |                                                                                   | 47                                                                                | 201                                                                               |                                                                                   |                                                                                    | 102                                                                                 | 22                                                                                  |                                                                                     | 108                                                                                 | 27                                                                                  |
| Internal Link Dist (ft) |                                                                                   | 1244                                                                              |                                                                                   |                                                                                   | 1075                                                                              |                                                                                   |                                                                                    | 1015                                                                                |                                                                                     |                                                                                     | 953                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 300                                                                               |                                                                                   |                                                                                   | 250                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     | 210                                                                                 |                                                                                     |                                                                                     | 600                                                                                 |
| Base Capacity (vph)     | 392                                                                               | 636                                                                               |                                                                                   | 393                                                                               | 634                                                                               |                                                                                   |                                                                                    | 639                                                                                 | 955                                                                                 |                                                                                     | 627                                                                                 | 971                                                                                 |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                    | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                    | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                    | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |
| Reduced v/c Ratio       | 0.55                                                                              | 0.53                                                                              |                                                                                   | 0.26                                                                              | 0.51                                                                              |                                                                                   |                                                                                    | 0.27                                                                                | 0.15                                                                                |                                                                                     | 0.27                                                                                | 0.18                                                                                |

### Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 68.3

Natural Cycle: 50

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 21.1

Intersection Capacity Utilization 63.6%

Analysis Period (min) 15

Intersection LOS: C

ICU Level of Service B

### Splits and Phases: 8: Thompson Road & South Bay Road

|                                                                                        |                                                                                        |                                                                                        |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
|  Ø2 |  Ø3 |  Ø4 |
| 30 s                                                                                   | 15 s                                                                                   | 30 s                                                                                   |
|  Ø6 |  Ø7 |  Ø8 |
| 30 s                                                                                   | 15 s                                                                                   | 30 s                                                                                   |



# Lanes, Volumes, Timings

## 9: Lakeshore Road & Mudd Mill Road

07/05/2022

|                            |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | WBT                                                                               | WBR                                                                               | SBL                                                                               | SBR                                                                               |
| Lane Configurations        |                                                                                   |  |  |                                                                                   |  |                                                                                   |
| Traffic Volume (vph)       | 40                                                                                | 177                                                                               | 116                                                                               | 104                                                                               | 112                                                                               | 30                                                                                |
| Future Volume (vph)        | 40                                                                                | 177                                                                               | 116                                                                               | 104                                                                               | 112                                                                               | 30                                                                                |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Satd. Flow (prot)          | 0                                                                                 | 1864                                                                              | 1761                                                                              | 0                                                                                 | 1759                                                                              | 0                                                                                 |
| Flt Permitted              |                                                                                   | 0.991                                                                             |                                                                                   |                                                                                   | 0.962                                                                             |                                                                                   |
| Satd. Flow (perm)          | 0                                                                                 | 1864                                                                              | 1761                                                                              | 0                                                                                 | 1759                                                                              | 0                                                                                 |
| Link Speed (mph)           |                                                                                   | 35                                                                                | 35                                                                                |                                                                                   | 35                                                                                |                                                                                   |
| Link Distance (ft)         |                                                                                   | 753                                                                               | 701                                                                               |                                                                                   | 545                                                                               |                                                                                   |
| Travel Time (s)            |                                                                                   | 14.7                                                                              | 13.7                                                                              |                                                                                   | 10.6                                                                              |                                                                                   |
| Peak Hour Factor           | 0.82                                                                              | 0.82                                                                              | 0.97                                                                              | 0.97                                                                              | 0.85                                                                              | 0.85                                                                              |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)      | 0                                                                                 | 265                                                                               | 227                                                                               | 0                                                                                 | 167                                                                               | 0                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment             | Left                                                                              | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Right                                                                             |
| Median Width(ft)           |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 12                                                                                |                                                                                   |
| Link Offset(ft)            |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 |                                                                                   |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                | 16                                                                                |                                                                                   | 16                                                                                |                                                                                   |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (mph)        | 15                                                                                |                                                                                   |                                                                                   | 9                                                                                 | 15                                                                                | 9                                                                                 |
| Sign Control               |                                                                                   | Free                                                                              | Free                                                                              |                                                                                   | Stop                                                                              |                                                                                   |

### Intersection Summary

Area Type: Other  
Control Type: Unsignalized  
Intersection Capacity Utilization 42.0%  
Analysis Period (min) 15

ICU Level of Service A



HCM 6th TWSC  
9: Lakeshore Road & Mudd Mill Road

07/05/2022

Intersection

Int Delay, s/veh 4.1

| Movement                 | EBL  | EBT                                                                               | WBT                                                                               | WBR  | SBL                                                                               | SBR  |
|--------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|------|
| Lane Configurations      |      |  |  |      |  |      |
| Traffic Vol, veh/h       | 40   | 177                                                                               | 116                                                                               | 104  | 112                                                                               | 30   |
| Future Vol, veh/h        | 40   | 177                                                                               | 116                                                                               | 104  | 112                                                                               | 30   |
| Conflicting Peds, #/hr   | 0    | 0                                                                                 | 0                                                                                 | 0    | 0                                                                                 | 0    |
| Sign Control             | Free | Free                                                                              | Free                                                                              | Free | Stop                                                                              | Stop |
| RT Channelized           | -    | None                                                                              | -                                                                                 | None | -                                                                                 | None |
| Storage Length           | -    | -                                                                                 | -                                                                                 | -    | 0                                                                                 | -    |
| Veh in Median Storage, # | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Grade, %                 | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Peak Hour Factor         | 82   | 82                                                                                | 97                                                                                | 97   | 85                                                                                | 85   |
| Heavy Vehicles, %        | 1    | 1                                                                                 | 1                                                                                 | 1    | 1                                                                                 | 1    |
| Mvmt Flow                | 49   | 216                                                                               | 120                                                                               | 107  | 132                                                                               | 35   |

| Major/Minor          | Major1 | Major2 | Minor2        |
|----------------------|--------|--------|---------------|
| Conflicting Flow All | 227    | 0      | 0 488 174     |
| Stage 1              | -      | -      | - 174 -       |
| Stage 2              | -      | -      | - 314 -       |
| Critical Hdwy        | 4.11   | -      | - 6.41 6.21   |
| Critical Hdwy Stg 1  | -      | -      | - 5.41 -      |
| Critical Hdwy Stg 2  | -      | -      | - 5.41 -      |
| Follow-up Hdwy       | 2.209  | -      | - 3.509 3.309 |
| Pot Cap-1 Maneuver   | 1347   | -      | - 541 872     |
| Stage 1              | -      | -      | - 859 -       |
| Stage 2              | -      | -      | - 743 -       |
| Platoon blocked, %   | -      | -      | -             |
| Mov Cap-1 Maneuver   | 1347   | -      | - 519 872     |
| Mov Cap-2 Maneuver   | -      | -      | - 519 -       |
| Stage 1              | -      | -      | - 824 -       |
| Stage 2              | -      | -      | - 743 -       |

| Approach             | EB  | WB | SB |
|----------------------|-----|----|----|
| HCM Control Delay, s | 1.4 | 0  | 14 |
| HCM LOS              |     |    | B  |

| Minor Lane/Major Mvmt | EBL   | EBT | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-----|-------|
| Capacity (veh/h)      | 1347  | -   | -   | -   | 568   |
| HCM Lane V/C Ratio    | 0.036 | -   | -   | -   | 0.294 |
| HCM Control Delay (s) | 7.8   | 0   | -   | -   | 14    |
| HCM Lane LOS          | A     | A   | -   | -   | B     |
| HCM 95th %tile Q(veh) | 0.1   | -   | -   | -   | 1.2   |



# Lanes, Volumes, Timings

## 10: South Bay Road & Lakeshore Road

07/05/2022

|                            |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                 | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations        |  |                                                                                   |                                                                                   |  |  |                                                                                   |
| Traffic Volume (vph)       | 159                                                                               | 7                                                                                 | 98                                                                                | 121                                                                               | 12                                                                                | 100                                                                               |
| Future Volume (vph)        | 159                                                                               | 7                                                                                 | 98                                                                                | 121                                                                               | 12                                                                                | 100                                                                               |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Satd. Flow (prot)          | 1834                                                                              | 0                                                                                 | 0                                                                                 | 1737                                                                              | 1598                                                                              | 0                                                                                 |
| Flt Permitted              |                                                                                   |                                                                                   |                                                                                   | 0.978                                                                             | 0.995                                                                             |                                                                                   |
| Satd. Flow (perm)          | 1834                                                                              | 0                                                                                 | 0                                                                                 | 1737                                                                              | 1598                                                                              | 0                                                                                 |
| Link Speed (mph)           | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                | 45                                                                                |                                                                                   |
| Link Distance (ft)         | 538                                                                               |                                                                                   |                                                                                   | 300                                                                               | 501                                                                               |                                                                                   |
| Travel Time (s)            | 10.5                                                                              |                                                                                   |                                                                                   | 5.8                                                                               | 7.6                                                                               |                                                                                   |
| Confl. Peds. (#/hr)        |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 2                                                                                 |
| Peak Hour Factor           | 0.93                                                                              | 0.93                                                                              | 0.89                                                                              | 0.89                                                                              | 0.92                                                                              | 0.92                                                                              |
| Heavy Vehicles (%)         | 3%                                                                                | 3%                                                                                | 7%                                                                                | 7%                                                                                | 4%                                                                                | 4%                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)      | 179                                                                               | 0                                                                                 | 0                                                                                 | 246                                                                               | 122                                                                               | 0                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment             | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Left                                                                              | Right                                                                             |
| Median Width(ft)           | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 | 12                                                                                |                                                                                   |
| Link Offset(ft)            | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |
| Crosswalk Width(ft)        | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                | 16                                                                                |                                                                                   |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (mph)        |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 15                                                                                | 9                                                                                 |
| Sign Control               | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              | Stop                                                                              |                                                                                   |

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 38.0%

ICU Level of Service A

Analysis Period (min) 15



HCM 6th TWSC  
10: South Bay Road & Lakeshore Road

07/05/2022

Intersection

| Int Delay, s/veh         | 3.9  |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      | ↔    |      |      | ↔    | ↔    |      |
| Traffic Vol, veh/h       | 159  | 7    | 98   | 121  | 12   | 100  |
| Future Vol, veh/h        | 159  | 7    | 98   | 121  | 12   | 100  |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 2    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | -    | -    | 0    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 93   | 93   | 89   | 89   | 92   | 92   |
| Heavy Vehicles, %        | 3    | 3    | 7    | 7    | 4    | 4    |
| Mvmt Flow                | 171  | 8    | 110  | 136  | 13   | 109  |

| Major/Minor          | Major1 | Major2 | Minor1 |
|----------------------|--------|--------|--------|
| Conflicting Flow All | 0      | 0      | 179    |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |
| Critical Hdwy        | -      | -      | 4.17   |
| Critical Hdwy Stg 1  | -      | -      | -      |
| Critical Hdwy Stg 2  | -      | -      | -      |
| Follow-up Hdwy       | -      | -      | 2.263  |
| Pot Cap-1 Maneuver   | -      | -      | 1367   |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |
| Platoon blocked, %   | -      | -      | -      |
| Mov Cap-1 Maneuver   | -      | -      | 1367   |
| Mov Cap-2 Maneuver   | -      | -      | -      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |

| Approach             | EB | WB  | NB   |
|----------------------|----|-----|------|
| HCM Control Delay, s | 0  | 3.5 | 10.4 |
| HCM LOS              |    |     | B    |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL   | WBT |
|-----------------------|-------|-----|-----|-------|-----|
| Capacity (veh/h)      | 786   | -   | -   | 1367  | -   |
| HCM Lane V/C Ratio    | 0.155 | -   | -   | 0.081 | -   |
| HCM Control Delay (s) | 10.4  | -   | -   | 7.9   | 0   |
| HCM Lane LOS          | B     | -   | -   | A     | A   |
| HCM 95th %tile Q(veh) | 0.5   | -   | -   | 0.3   | -   |



# Lanes, Volumes, Timings

## 11: Cicero Center Road/Van Antwerp Drive & Lakeshore Road

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (vph)       | 1                                                                                 | 246                                                                               | 12                                                                                | 7                                                                                 | 197                                                                               | 3                                                                                 | 17                                                                                | 1                                                                                   | 16                                                                                  | 0                                                                                   | 1                                                                                   | 5                                                                                   |
| Future Volume (vph)        | 1                                                                                 | 246                                                                               | 12                                                                                | 7                                                                                 | 197                                                                               | 3                                                                                 | 17                                                                                | 1                                                                                   | 16                                                                                  | 0                                                                                   | 1                                                                                   | 5                                                                                   |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Satd. Flow (prot)          | 0                                                                                 | 1852                                                                              | 0                                                                                 | 0                                                                                 | 1855                                                                              | 0                                                                                 | 0                                                                                 | 1704                                                                                | 0                                                                                   | 0                                                                                   | 1652                                                                                | 0                                                                                   |
| Flt Permitted              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.998                                                                             |                                                                                   |                                                                                   | 0.976                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Satd. Flow (perm)          | 0                                                                                 | 1852                                                                              | 0                                                                                 | 0                                                                                 | 1855                                                                              | 0                                                                                 | 0                                                                                 | 1704                                                                                | 0                                                                                   | 0                                                                                   | 1652                                                                                | 0                                                                                   |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 55                                                                                  |                                                                                     |                                                                                     | 30                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 557                                                                               |                                                                                   |                                                                                   | 543                                                                               |                                                                                   |                                                                                   | 388                                                                                 |                                                                                     |                                                                                     | 295                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 10.9                                                                              |                                                                                   |                                                                                   | 10.6                                                                              |                                                                                   |                                                                                   | 4.8                                                                                 |                                                                                     |                                                                                     | 6.7                                                                                 |                                                                                     |
| Confl. Peds. (#/hr)        | 1                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1                                                                                 | 1                                                                                 |                                                                                     | 1                                                                                   | 1                                                                                   |                                                                                     | 1                                                                                   |
| Peak Hour Factor           | 0.89                                                                              | 0.89                                                                              | 0.89                                                                              | 0.85                                                                              | 0.85                                                                              | 0.85                                                                              | 0.63                                                                              | 0.63                                                                                | 0.63                                                                                | 0.50                                                                                | 0.50                                                                                | 0.50                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 0                                                                                 | 290                                                                               | 0                                                                                 | 0                                                                                 | 244                                                                               | 0                                                                                 | 0                                                                                 | 54                                                                                  | 0                                                                                   | 0                                                                                   | 12                                                                                  | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Sign Control               |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Stop                                                                                |                                                                                     |                                                                                     | Stop                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 31.2%

ICU Level of Service A

Analysis Period (min) 15



Intersection

Int Delay, s/veh 1.4

| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations      |      | ↔    |      |      | ↔    |      |      | ↔    |      |      | ↔    |      |
| Traffic Vol, veh/h       | 1    | 246  | 12   | 7    | 197  | 3    | 17   | 1    | 16   | 0    | 1    | 5    |
| Future Vol, veh/h        | 1    | 246  | 12   | 7    | 197  | 3    | 17   | 1    | 16   | 0    | 1    | 5    |
| Conflicting Peds, #/hr   | 1    | 0    | 0    | 0    | 0    | 1    | 1    | 0    | 1    | 1    | 0    | 1    |
| Sign Control             | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -    | None |
| Storage Length           | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 89   | 89   | 89   | 85   | 85   | 85   | 63   | 63   | 63   | 50   | 50   | 50   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 1    | 276  | 13   | 8    | 232  | 4    | 27   | 2    | 25   | 0    | 2    | 10   |

| Major/Minor          | Major1 |   | Major2 |       | Minor1 |   | Minor2 |       |       |       |       |       |
|----------------------|--------|---|--------|-------|--------|---|--------|-------|-------|-------|-------|-------|
| Conflicting Flow All | 237    | 0 | 0      | 289   | 0      | 0 | 542    | 538   | 284   | 550   | 542   | 236   |
| Stage 1              | -      | - | -      | -     | -      | - | 285    | 285   | -     | 251   | 251   | -     |
| Stage 2              | -      | - | -      | -     | -      | - | 257    | 253   | -     | 299   | 291   | -     |
| Critical Hdwy        | 4.12   | - | -      | 4.12  | -      | - | 7.12   | 6.52  | 6.22  | 7.12  | 6.52  | 6.22  |
| Critical Hdwy Stg 1  | -      | - | -      | -     | -      | - | 6.12   | 5.52  | -     | 6.12  | 5.52  | -     |
| Critical Hdwy Stg 2  | -      | - | -      | -     | -      | - | 6.12   | 5.52  | -     | 6.12  | 5.52  | -     |
| Follow-up Hdwy       | 2.218  | - | -      | 2.218 | -      | - | 3.518  | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver   | 1330   | - | -      | 1273  | -      | - | 451    | 450   | 755   | 446   | 447   | 803   |
| Stage 1              | -      | - | -      | -     | -      | - | 722    | 676   | -     | 753   | 699   | -     |
| Stage 2              | -      | - | -      | -     | -      | - | 748    | 698   | -     | 710   | 672   | -     |
| Platoon blocked, %   |        | - | -      |       | -      | - |        |       |       |       |       |       |
| Mov Cap-1 Maneuver   | 1329   | - | -      | 1273  | -      | - | 441    | 446   | 754   | 426   | 443   | 801   |
| Mov Cap-2 Maneuver   | -      | - | -      | -     | -      | - | 441    | 446   | -     | 426   | 443   | -     |
| Stage 1              | -      | - | -      | -     | -      | - | 721    | 675   | -     | 751   | 693   | -     |
| Stage 2              | -      | - | -      | -     | -      | - | 731    | 692   | -     | 683   | 671   | -     |

| Approach             | EB |  | WB  |  | NB   |  | SB   |
|----------------------|----|--|-----|--|------|--|------|
| HCM Control Delay, s | 0  |  | 0.3 |  | 12.3 |  | 10.2 |
| HCM LOS              |    |  |     |  | B    |  | B    |

| Minor Lane/Major Mvmt | NBLn1 | EBL   | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 548   | 1329  | -   | -   | 1273  | -   | -   | 706   |
| HCM Lane V/C Ratio    | 0.098 | 0.001 | -   | -   | 0.006 | -   | -   | 0.017 |
| HCM Control Delay (s) | 12.3  | 7.7   | 0   | -   | 7.8   | 0   | -   | 10.2  |
| HCM Lane LOS          | B     | A     | A   | -   | A     | A   | -   | B     |
| HCM 95th %tile Q(veh) | 0.3   | 0     | -   | -   | 0     | -   | -   | 0.1   |



# Lanes, Volumes, Timings

## 1: Route 11 & Route 31

07/05/2022

|                            |  |  |  |  |  |  |   |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |  |  |                                                                                   |  |  |                                                                                   |  |  |  |  |  |                                                                                     |
| Traffic Volume (vph)       | 62                                                                                | 661                                                                               | 51                                                                                | 349                                                                               | 417                                                                               | 110                                                                               | 39                                                                                 | 96                                                                                  | 214                                                                                 | 120                                                                                 | 135                                                                                 | 35                                                                                  |
| Future Volume (vph)        | 62                                                                                | 661                                                                               | 51                                                                                | 349                                                                               | 417                                                                               | 110                                                                               | 39                                                                                 | 96                                                                                  | 214                                                                                 | 120                                                                                 | 135                                                                                 | 35                                                                                  |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                               | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 200                                                                               |                                                                                   | 310                                                                               | 495                                                                               |                                                                                   | 0                                                                                 | 175                                                                                |                                                                                     | 0                                                                                   | 350                                                                                 |                                                                                     | 0                                                                                   |
| Storage Lanes              | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                  |                                                                                     | 1                                                                                   | 1                                                                                   |                                                                                     | 0                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                 |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 1752                                                                              | 3466                                                                              | 0                                                                                 | 1736                                                                              | 3364                                                                              | 0                                                                                 | 1752                                                                               | 1845                                                                                | 1568                                                                                | 1719                                                                                | 3332                                                                                | 0                                                                                   |
| Flt Permitted              | 0.439                                                                             |                                                                                   |                                                                                   | 0.188                                                                             |                                                                                   |                                                                                   | 0.609                                                                              |                                                                                     |                                                                                     | 0.478                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)          | 810                                                                               | 3466                                                                              | 0                                                                                 | 343                                                                               | 3364                                                                              | 0                                                                                 | 1123                                                                               | 1845                                                                                | 1568                                                                                | 865                                                                                 | 3332                                                                                | 0                                                                                   |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                    |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   | 7                                                                                 |                                                                                   |                                                                                   | 43                                                                                |                                                                                   |                                                                                    |                                                                                     | 92                                                                                  |                                                                                     | 24                                                                                  |                                                                                     |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                    | 35                                                                                  |                                                                                     |                                                                                     | 35                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 385                                                                               |                                                                                   |                                                                                   | 703                                                                               |                                                                                   |                                                                                    | 612                                                                                 |                                                                                     |                                                                                     | 561                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 7.5                                                                               |                                                                                   |                                                                                   | 13.7                                                                              |                                                                                   |                                                                                    | 11.9                                                                                |                                                                                     |                                                                                     | 10.9                                                                                |                                                                                     |
| Peak Hour Factor           | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.87                                                                               | 0.87                                                                                | 0.87                                                                                | 0.74                                                                                | 0.74                                                                                | 0.74                                                                                |
| Heavy Vehicles (%)         | 3%                                                                                | 3%                                                                                | 3%                                                                                | 4%                                                                                | 4%                                                                                | 4%                                                                                | 3%                                                                                 | 3%                                                                                  | 3%                                                                                  | 5%                                                                                  | 5%                                                                                  | 5%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 70                                                                                | 809                                                                               | 0                                                                                 | 375                                                                               | 566                                                                               | 0                                                                                 | 45                                                                                 | 110                                                                                 | 246                                                                                 | 162                                                                                 | 229                                                                                 | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                 | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                               | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                    | 12                                                                                  |                                                                                     |                                                                                     | 12                                                                                  |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                    | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                    | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                 |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                              | NA                                                                                  | pm+ov                                                                               | pm+pt                                                                               | NA                                                                                  |                                                                                     |
| Protected Phases           | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 3                                                                                  | 8                                                                                   | 1                                                                                   | 7                                                                                   | 4                                                                                   |                                                                                     |
| Permitted Phases           | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                  |                                                                                     | 8                                                                                   | 4                                                                                   |                                                                                     |                                                                                     |
| Detector Phase             | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 3                                                                                  | 8                                                                                   | 1                                                                                   | 7                                                                                   | 4                                                                                   |                                                                                     |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 4.0                                                                               | 12.0                                                                              |                                                                                   | 8.0                                                                               | 12.0                                                                              |                                                                                   | 4.0                                                                                | 8.0                                                                                 | 8.0                                                                                 | 4.0                                                                                 | 8.0                                                                                 |                                                                                     |
| Minimum Split (s)          | 9.5                                                                               | 18.0                                                                              |                                                                                   | 13.5                                                                              | 18.0                                                                              |                                                                                   | 10.0                                                                               | 14.0                                                                                | 13.5                                                                                | 9.5                                                                                 | 14.0                                                                                |                                                                                     |
| Total Split (s)            | 14.0                                                                              | 40.0                                                                              |                                                                                   | 35.0                                                                              | 61.0                                                                              |                                                                                   | 14.0                                                                               | 19.0                                                                                | 35.0                                                                                | 16.0                                                                                | 21.0                                                                                |                                                                                     |
| Total Split (%)            | 12.7%                                                                             | 36.4%                                                                             |                                                                                   | 31.8%                                                                             | 55.5%                                                                             |                                                                                   | 12.7%                                                                              | 17.3%                                                                               | 31.8%                                                                               | 14.5%                                                                               | 19.1%                                                                               |                                                                                     |
| Maximum Green (s)          | 8.5                                                                               | 34.0                                                                              |                                                                                   | 29.5                                                                              | 55.0                                                                              |                                                                                   | 8.0                                                                                | 13.0                                                                                | 29.5                                                                                | 10.5                                                                                | 15.0                                                                                |                                                                                     |
| Yellow Time (s)            | 3.5                                                                               | 3.5                                                                               |                                                                                   | 3.5                                                                               | 3.5                                                                               |                                                                                   | 3.5                                                                                | 3.5                                                                                 | 3.5                                                                                 | 3.0                                                                                 | 3.5                                                                                 |                                                                                     |
| All-Red Time (s)           | 2.0                                                                               | 2.5                                                                               |                                                                                   | 2.0                                                                               | 2.5                                                                               |                                                                                   | 2.5                                                                                | 2.5                                                                                 | 2.0                                                                                 | 2.5                                                                                 | 2.5                                                                                 |                                                                                     |
| Lost Time Adjust (s)       | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                                | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)        | 5.5                                                                               | 6.0                                                                               |                                                                                   | 5.5                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                                | 6.0                                                                                 | 5.5                                                                                 | 5.5                                                                                 | 6.0                                                                                 |                                                                                     |
| Lead/Lag                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                               | Lag                                                                                 | Lead                                                                                | Lead                                                                                | Lag                                                                                 |                                                                                     |
| Lead-Lag Optimize?         | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                                | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 |                                                                                     |
| Vehicle Extension (s)      | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                                | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |
| Recall Mode                | None                                                                              | C-Min                                                                             |                                                                                   | None                                                                              | C-Min                                                                             |                                                                                   | None                                                                               | None                                                                                | None                                                                                | None                                                                                | None                                                                                |                                                                                     |
| Act Effct Green (s)        | 49.5                                                                              | 41.7                                                                              |                                                                                   | 70.2                                                                              | 59.2                                                                              |                                                                                   | 18.5                                                                               | 11.2                                                                                | 39.7                                                                                | 27.3                                                                                | 17.3                                                                                |                                                                                     |
| Actuated g/C Ratio         | 0.45                                                                              | 0.38                                                                              |                                                                                   | 0.64                                                                              | 0.54                                                                              |                                                                                   | 0.17                                                                               | 0.10                                                                                | 0.36                                                                                | 0.25                                                                                | 0.16                                                                                |                                                                                     |
| v/c Ratio                  | 0.16                                                                              | 0.61                                                                              |                                                                                   | 0.75                                                                              | 0.31                                                                              |                                                                                   | 0.19                                                                               | 0.59                                                                                | 0.39                                                                                | 0.53                                                                                | 0.42                                                                                |                                                                                     |
| Control Delay              | 11.7                                                                              | 31.4                                                                              |                                                                                   | 27.4                                                                              | 7.1                                                                               |                                                                                   | 32.9                                                                               | 60.0                                                                                | 16.5                                                                                | 40.0                                                                                | 40.8                                                                                |                                                                                     |



# Lanes, Volumes, Timings

## 1: Route 11 & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Queue Delay             | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Delay             | 11.7                                                                              | 31.4                                                                              |                                                                                   | 27.4                                                                              | 7.1                                                                               |                                                                                   | 32.9                                                                              | 60.0                                                                                | 16.5                                                                                | 40.0                                                                                | 40.8                                                                                |                                                                                     |
| LOS                     | B                                                                                 | C                                                                                 |                                                                                   | C                                                                                 | A                                                                                 |                                                                                   | C                                                                                 | E                                                                                   | B                                                                                   | D                                                                                   | D                                                                                   |                                                                                     |
| Approach Delay          |                                                                                   | 29.8                                                                              |                                                                                   |                                                                                   | 15.2                                                                              |                                                                                   |                                                                                   | 30.3                                                                                |                                                                                     |                                                                                     | 40.5                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | B                                                                                 |                                                                                   |                                                                                   | C                                                                                   |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 19                                                                                | 251                                                                               |                                                                                   | 66                                                                                | 33                                                                                |                                                                                   | 23                                                                                | 75                                                                                  | 76                                                                                  | 89                                                                                  | 68                                                                                  |                                                                                     |
| Queue Length 95th (ft)  | 34                                                                                | 331                                                                               |                                                                                   | 138                                                                               | 104                                                                               |                                                                                   | 52                                                                                | 128                                                                                 | 119                                                                                 | 123                                                                                 | 88                                                                                  |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 305                                                                               |                                                                                   |                                                                                   | 623                                                                               |                                                                                   |                                                                                   | 532                                                                                 |                                                                                     |                                                                                     | 481                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 200                                                                               |                                                                                   |                                                                                   | 495                                                                               |                                                                                   |                                                                                   | 175                                                                               |                                                                                     |                                                                                     | 350                                                                                 |                                                                                     |                                                                                     |
| Base Capacity (vph)     | 446                                                                               | 1318                                                                              |                                                                                   | 592                                                                               | 1840                                                                              |                                                                                   | 243                                                                               | 218                                                                                 | 717                                                                                 | 306                                                                                 | 543                                                                                 |                                                                                     |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       | 0.16                                                                              | 0.61                                                                              |                                                                                   | 0.63                                                                              | 0.31                                                                              |                                                                                   | 0.19                                                                              | 0.50                                                                                | 0.34                                                                                | 0.53                                                                                | 0.42                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 11 (10%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 26.2

Intersection LOS: C

Intersection Capacity Utilization 71.7%

ICU Level of Service C

Analysis Period (min) 15

### Splits and Phases: 1: Route 11 & Route 31

|                                                                                        |                                                                                            |                                                                                          |                                                                                          |
|----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
|  Ø1 |  Ø2 (R) |  Ø3 |  Ø4 |
| 35 s                                                                                   | 40 s                                                                                       | 14 s                                                                                     | 21 s                                                                                     |
|  Ø5 |  Ø6 (R) |  Ø7 |  Ø8 |
| 14 s                                                                                   | 61 s                                                                                       | 16 s                                                                                     | 19 s                                                                                     |



# Lanes, Volumes, Timings

## 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |                                                                                   |  |                                                                                   |  |  |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |  |  |
| Traffic Volume (vph)       | 0                                                                                 | 619                                                                               | 376                                                                               | 732                                                                               | 718                                                                               | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 178                                                                                 | 1                                                                                   | 158                                                                                 |
| Future Volume (vph)        | 0                                                                                 | 619                                                                               | 376                                                                               | 732                                                                               | 718                                                                               | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 178                                                                                 | 1                                                                                   | 158                                                                                 |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 0                                                                                 |                                                                                   | 0                                                                                 | 150                                                                               |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     | 125                                                                                 |
| Storage Lanes              | 0                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     | 1                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 0                                                                                 | 3343                                                                              | 0                                                                                 | 1787                                                                              | 3574                                                                              | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 1775                                                                                | 1583                                                                                |
| Flt Permitted              |                                                                                   |                                                                                   |                                                                                   | 0.098                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 0.953                                                                               |                                                                                     |
| Satd. Flow (perm)          | 0                                                                                 | 3343                                                                              | 0                                                                                 | 184                                                                               | 3574                                                                              | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 1775                                                                                | 1583                                                                                |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   | 116                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 174                                                                                 |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 40                                                                                  |                                                                                     |                                                                                     | 40                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 703                                                                               |                                                                                   |                                                                                   | 360                                                                               |                                                                                   |                                                                                   | 622                                                                                 |                                                                                     |                                                                                     | 505                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 13.7                                                                              |                                                                                   |                                                                                   | 7.0                                                                               |                                                                                   |                                                                                   | 10.6                                                                                |                                                                                     |                                                                                     | 8.6                                                                                 |                                                                                     |
| Confl. Peds. (#/hr)        |                                                                                   |                                                                                   | 1                                                                                 | 1                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Peak Hour Factor           | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.94                                                                              | 0.94                                                                              | 0.94                                                                              | 0.90                                                                              | 0.90                                                                                | 0.90                                                                                | 0.91                                                                                | 0.91                                                                                | 0.91                                                                                |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                  | 1%                                                                                  | 2%                                                                                  | 2%                                                                                  | 2%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 0                                                                                 | 1130                                                                              | 0                                                                                 | 779                                                                               | 764                                                                               | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 197                                                                                 | 174                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  |                                                                                   | NA                                                                                |                                                                                   | pm+pt                                                                             | NA                                                                                |                                                                                   |                                                                                   |                                                                                     |                                                                                     | Perm                                                                                | NA                                                                                  | Perm                                                                                |
| Protected Phases           |                                                                                   | 2                                                                                 |                                                                                   | 1 3                                                                               | 6                                                                                 |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |
| Permitted Phases           |                                                                                   |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     | 4                                                                                   |
| Detector Phase             |                                                                                   | 2                                                                                 |                                                                                   | 1 3                                                                               | 6                                                                                 |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 4                                                                                   | 4                                                                                   | 4                                                                                   |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        |                                                                                   | 12.0                                                                              |                                                                                   |                                                                                   | 12.0                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 |
| Minimum Split (s)          |                                                                                   | 17.0                                                                              |                                                                                   |                                                                                   | 17.0                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 9.0                                                                                 | 9.0                                                                                 | 9.0                                                                                 |
| Total Split (s)            |                                                                                   | 36.0                                                                              |                                                                                   |                                                                                   | 91.0                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 19.0                                                                                | 19.0                                                                                | 19.0                                                                                |
| Total Split (%)            |                                                                                   | 32.7%                                                                             |                                                                                   |                                                                                   | 82.7%                                                                             |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 17.3%                                                                               | 17.3%                                                                               | 17.3%                                                                               |
| Maximum Green (s)          |                                                                                   | 31.0                                                                              |                                                                                   |                                                                                   | 86.0                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 14.0                                                                                | 14.0                                                                                | 14.0                                                                                |
| Yellow Time (s)            |                                                                                   | 3.5                                                                               |                                                                                   |                                                                                   | 3.5                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 |
| All-Red Time (s)           |                                                                                   | 1.5                                                                               |                                                                                   |                                                                                   | 1.5                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 1.0                                                                                 | 1.0                                                                                 | 1.0                                                                                 |
| Lost Time Adjust (s)       |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |
| Total Lost Time (s)        |                                                                                   | 5.0                                                                               |                                                                                   |                                                                                   | 5.0                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |
| Lead/Lag                   |                                                                                   | Lag                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?         |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Vehicle Extension (s)      |                                                                                   | 3.0                                                                               |                                                                                   |                                                                                   | 3.0                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |
| Recall Mode                |                                                                                   | C-Min                                                                             |                                                                                   |                                                                                   | C-Min                                                                             |                                                                                   |                                                                                   |                                                                                     |                                                                                     | None                                                                                | None                                                                                | None                                                                                |
| Act Effect Green (s)       |                                                                                   | 31.0                                                                              |                                                                                   | 86.2                                                                              | 86.2                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 13.8                                                                                | 13.8                                                                                |
| Actuated g/C Ratio         |                                                                                   | 0.28                                                                              |                                                                                   | 0.78                                                                              | 0.78                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 0.13                                                                                | 0.13                                                                                |
| v/c Ratio                  |                                                                                   | 1.10                                                                              |                                                                                   | 0.97                                                                              | 0.27                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 0.88                                                                                | 0.50                                                                                |



# Lanes, Volumes, Timings

## 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

07/05/2022

| Lane Group                 | Ø1   | Ø3   |
|----------------------------|------|------|
| Lane Configurations        |      |      |
| Traffic Volume (vph)       |      |      |
| Future Volume (vph)        |      |      |
| Ideal Flow (vphpl)         |      |      |
| Storage Length (ft)        |      |      |
| Storage Lanes              |      |      |
| Taper Length (ft)          |      |      |
| Satd. Flow (prot)          |      |      |
| Flt Permitted              |      |      |
| Satd. Flow (perm)          |      |      |
| Right Turn on Red          |      |      |
| Satd. Flow (RTOR)          |      |      |
| Link Speed (mph)           |      |      |
| Link Distance (ft)         |      |      |
| Travel Time (s)            |      |      |
| Confl. Peds. (#/hr)        |      |      |
| Peak Hour Factor           |      |      |
| Heavy Vehicles (%)         |      |      |
| Shared Lane Traffic (%)    |      |      |
| Lane Group Flow (vph)      |      |      |
| Enter Blocked Intersection |      |      |
| Lane Alignment             |      |      |
| Median Width(ft)           |      |      |
| Link Offset(ft)            |      |      |
| Crosswalk Width(ft)        |      |      |
| Two way Left Turn Lane     |      |      |
| Headway Factor             |      |      |
| Turning Speed (mph)        |      |      |
| Turn Type                  |      |      |
| Protected Phases           | 1    | 3    |
| Permitted Phases           |      |      |
| Detector Phase             |      |      |
| Switch Phase               |      |      |
| Minimum Initial (s)        | 4.0  | 4.0  |
| Minimum Split (s)          | 9.0  | 9.0  |
| Total Split (s)            | 19.0 | 36.0 |
| Total Split (%)            | 17%  | 33%  |
| Maximum Green (s)          | 14.0 | 31.0 |
| Yellow Time (s)            | 3.5  | 3.5  |
| All-Red Time (s)           | 1.5  | 1.5  |
| Lost Time Adjust (s)       |      |      |
| Total Lost Time (s)        |      |      |
| Lead/Lag                   | Lead |      |
| Lead-Lag Optimize?         | Yes  |      |
| Vehicle Extension (s)      | 3.0  | 3.0  |
| Recall Mode                | None | None |
| Act Effect Green (s)       |      |      |
| Actuated g/C Ratio         |      |      |
| v/c Ratio                  |      |      |



# Lanes, Volumes, Timings

## 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Control Delay           |                                                                                   | 99.2                                                                              |                                                                                   | 48.7                                                                              | 3.3                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 84.7                                                                                | 11.9                                                                                |
| Queue Delay             |                                                                                   | 0.0                                                                               |                                                                                   | 43.4                                                                              | 0.6                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |
| Total Delay             |                                                                                   | 99.2                                                                              |                                                                                   | 92.1                                                                              | 3.9                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 84.7                                                                                | 11.9                                                                                |
| LOS                     |                                                                                   | F                                                                                 |                                                                                   | F                                                                                 | A                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | F                                                                                   | B                                                                                   |
| Approach Delay          |                                                                                   | 99.2                                                                              |                                                                                   |                                                                                   | 48.4                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 50.6                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | F                                                                                 |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Queue Length 50th (ft)  |                                                                                   | ~417                                                                              |                                                                                   | 409                                                                               | 65                                                                                |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 139                                                                                 | 0                                                                                   |
| Queue Length 95th (ft)  |                                                                                   | #564                                                                              |                                                                                   | #726                                                                              | 21                                                                                |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | #270                                                                                | 62                                                                                  |
| Internal Link Dist (ft) |                                                                                   | 623                                                                               |                                                                                   |                                                                                   | 280                                                                               |                                                                                   |                                                                                    | 542                                                                                 |                                                                                     |                                                                                     | 425                                                                                 |                                                                                     |
| Turn Bay Length (ft)    |                                                                                   |                                                                                   |                                                                                   | 150                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 125                                                                                 |
| Base Capacity (vph)     |                                                                                   | 1025                                                                              |                                                                                   | 802                                                                               | 2799                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 225                                                                                 | 353                                                                                 |
| Starvation Cap Reductn  |                                                                                   | 0                                                                                 |                                                                                   | 331                                                                               | 1527                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 0                                                                                   | 0                                                                                   |
| Spillback Cap Reductn   |                                                                                   | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 0                                                                                   | 0                                                                                   |
| Storage Cap Reductn     |                                                                                   | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 0                                                                                   | 0                                                                                   |
| Reduced v/c Ratio       |                                                                                   | 1.10                                                                              |                                                                                   | 1.65                                                                              | 0.60                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 0.88                                                                                | 0.49                                                                                |

### Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 97 (88%), Referenced to phase 2:EBT and 6:WBTL, Start of Yellow

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.10

Intersection Signal Delay: 67.5

Intersection LOS: E

Intersection Capacity Utilization 92.2%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

### Splits and Phases: 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

|                                                                                            |                                                                                            |                                                                                        |                                                                                          |
|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
|  Ø1     |  Ø2 (R) |  Ø3 |  Ø4 |
| 19 s                                                                                       | 36 s                                                                                       | 36 s                                                                                   | 19 s                                                                                     |
|  Ø6 (R) |                                                                                            |                                                                                        |                                                                                          |
| 91 s                                                                                       |                                                                                            |                                                                                        |                                                                                          |



## Lanes, Volumes, Timings

### 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

07/05/2022

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| Lane Group | Ø1 | Ø3 |
|------------|----|----|
|------------|----|----|

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Control Delay

Queue Delay

Total Delay

LOS

Approach Delay

Approach LOS

Queue Length 50th (ft)

Queue Length 95th (ft)

Internal Link Dist (ft)

Turn Bay Length (ft)

Base Capacity (vph)

Starvation Cap Reductn

Spillback Cap Reductn

Storage Cap Reductn

Reduced v/c Ratio

Intersection Summary

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# Lanes, Volumes, Timings

## 3: I-81 NB Offramp/Pardee Road & Route 31

07/05/2022

|                            |  |  |  |  |  |  |    |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |  |  |                                                                                   |                                                                                   |  |                                                                                   |  |  |  |                                                                                     |                                                                                     |  |
| Traffic Volume (vph)       | 95                                                                                | 702                                                                               | 0                                                                                 | 0                                                                                 | 1145                                                                              | 138                                                                               | 159                                                                                 | 64                                                                                  | 377                                                                                 | 0                                                                                   | 0                                                                                   | 146                                                                                 |
| Future Volume (vph)        | 95                                                                                | 702                                                                               | 0                                                                                 | 0                                                                                 | 1145                                                                              | 138                                                                               | 159                                                                                 | 64                                                                                  | 377                                                                                 | 0                                                                                   | 0                                                                                   | 146                                                                                 |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 85                                                                                |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 310                                                                                 |                                                                                     | 100                                                                                 | 0                                                                                   |                                                                                     | 0                                                                                   |
| Storage Lanes              | 1                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                   |                                                                                     | 1                                                                                   | 0                                                                                   |                                                                                     | 1                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                  |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 1736                                                                              | 3471                                                                              | 0                                                                                 | 0                                                                                 | 3441                                                                              | 0                                                                                 | 1719                                                                                | 1810                                                                                | 1538                                                                                | 0                                                                                   | 0                                                                                   | 1536                                                                                |
| Flt Permitted              | 0.090                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.950                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Satd. Flow (perm)          | 164                                                                               | 3471                                                                              | 0                                                                                 | 0                                                                                 | 3441                                                                              | 0                                                                                 | 1717                                                                                | 1810                                                                                | 1518                                                                                | 0                                                                                   | 0                                                                                   | 1536                                                                                |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                     |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 14                                                                                |                                                                                   |                                                                                     |                                                                                     | 188                                                                                 |                                                                                     |                                                                                     | 187                                                                                 |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                     | 40                                                                                  |                                                                                     |                                                                                     | 55                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 360                                                                               |                                                                                   |                                                                                   | 1082                                                                              |                                                                                   |                                                                                     | 639                                                                                 |                                                                                     |                                                                                     | 500                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 7.0                                                                               |                                                                                   |                                                                                   | 21.1                                                                              |                                                                                   |                                                                                     | 10.9                                                                                |                                                                                     |                                                                                     | 6.2                                                                                 |                                                                                     |
| Confl. Peds. (#/hr)        | 1                                                                                 |                                                                                   | 1                                                                                 | 1                                                                                 |                                                                                   | 1                                                                                 | 1                                                                                   |                                                                                     | 1                                                                                   | 1                                                                                   |                                                                                     | 1                                                                                   |
| Peak Hour Factor           | 0.83                                                                              | 0.83                                                                              | 0.83                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.89                                                                                | 0.89                                                                                | 0.89                                                                                | 0.84                                                                                | 0.84                                                                                | 0.84                                                                                |
| Heavy Vehicles (%)         | 4%                                                                                | 4%                                                                                | 4%                                                                                | 3%                                                                                | 3%                                                                                | 3%                                                                                | 5%                                                                                  | 5%                                                                                  | 5%                                                                                  | 7%                                                                                  | 7%                                                                                  | 7%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 114                                                                               | 846                                                                               | 0                                                                                 | 0                                                                                 | 1425                                                                              | 0                                                                                 | 179                                                                                 | 72                                                                                  | 424                                                                                 | 0                                                                                   | 0                                                                                   | 174                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                                | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                     | 12                                                                                  |                                                                                     |                                                                                     | 12                                                                                  |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                     | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                     | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                  |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | pm+pt                                                                             | NA                                                                                |                                                                                   |                                                                                   | NA                                                                                |                                                                                   | Perm                                                                                | NA                                                                                  | Perm                                                                                |                                                                                     |                                                                                     | Over                                                                                |
| Protected Phases           | 5                                                                                 | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                     | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     | 5                                                                                   |
| Permitted Phases           | 2                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 8                                                                                   |                                                                                     | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Detector Phase             | 5                                                                                 | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   | 8                                                                                   | 8                                                                                   | 8                                                                                   |                                                                                     |                                                                                     | 5                                                                                   |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 4.0                                                                               | 12.0                                                                              |                                                                                   |                                                                                   | 12.0                                                                              |                                                                                   | 6.0                                                                                 | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |                                                                                     | 4.0                                                                                 |
| Minimum Split (s)          | 9.0                                                                               | 17.5                                                                              |                                                                                   |                                                                                   | 17.5                                                                              |                                                                                   | 12.0                                                                                | 12.0                                                                                | 12.0                                                                                |                                                                                     |                                                                                     | 9.0                                                                                 |
| Total Split (s)            | 24.0                                                                              | 75.0                                                                              |                                                                                   |                                                                                   | 51.0                                                                              |                                                                                   | 35.0                                                                                | 35.0                                                                                | 35.0                                                                                |                                                                                     |                                                                                     | 24.0                                                                                |
| Total Split (%)            | 21.8%                                                                             | 68.2%                                                                             |                                                                                   |                                                                                   | 46.4%                                                                             |                                                                                   | 31.8%                                                                               | 31.8%                                                                               | 31.8%                                                                               |                                                                                     |                                                                                     | 21.8%                                                                               |
| Maximum Green (s)          | 19.0                                                                              | 69.5                                                                              |                                                                                   |                                                                                   | 45.5                                                                              |                                                                                   | 29.0                                                                                | 29.0                                                                                | 29.0                                                                                |                                                                                     |                                                                                     | 19.0                                                                                |
| Yellow Time (s)            | 3.0                                                                               | 3.5                                                                               |                                                                                   |                                                                                   | 3.5                                                                               |                                                                                   | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 |                                                                                     |                                                                                     | 3.0                                                                                 |
| All-Red Time (s)           | 2.0                                                                               | 2.0                                                                               |                                                                                   |                                                                                   | 2.0                                                                               |                                                                                   | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 |                                                                                     |                                                                                     | 2.0                                                                                 |
| Lost Time Adjust (s)       | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |                                                                                     | 0.0                                                                                 |
| Total Lost Time (s)        | 5.0                                                                               | 5.5                                                                               |                                                                                   |                                                                                   | 5.5                                                                               |                                                                                   | 6.0                                                                                 | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |                                                                                     | 5.0                                                                                 |
| Lead/Lag                   | Lead                                                                              |                                                                                   |                                                                                   |                                                                                   | Lag                                                                               |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | Lead                                                                                |
| Lead-Lag Optimize?         | Yes                                                                               |                                                                                   |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | Yes                                                                                 |
| Vehicle Extension (s)      | 3.0                                                                               | 3.0                                                                               |                                                                                   |                                                                                   | 3.0                                                                               |                                                                                   | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |                                                                                     | 3.0                                                                                 |
| Recall Mode                | None                                                                              | C-Min                                                                             |                                                                                   |                                                                                   | C-Min                                                                             |                                                                                   | None                                                                                | None                                                                                | None                                                                                |                                                                                     |                                                                                     | None                                                                                |
| Act Effct Green (s)        | 75.4                                                                              | 74.9                                                                              |                                                                                   |                                                                                   | 61.1                                                                              |                                                                                   | 23.6                                                                                | 23.6                                                                                | 23.6                                                                                |                                                                                     |                                                                                     | 8.7                                                                                 |
| Actuated g/C Ratio         | 0.69                                                                              | 0.68                                                                              |                                                                                   |                                                                                   | 0.56                                                                              |                                                                                   | 0.21                                                                                | 0.21                                                                                | 0.21                                                                                |                                                                                     |                                                                                     | 0.08                                                                                |
| v/c Ratio                  | 0.48                                                                              | 0.36                                                                              |                                                                                   |                                                                                   | 0.74                                                                              |                                                                                   | 0.49                                                                                | 0.19                                                                                | 0.90                                                                                |                                                                                     |                                                                                     | 0.59                                                                                |



# Lanes, Volumes, Timings

## 3: I-81 NB Offramp/Pardee Road & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Control Delay           | 22.3                                                                              | 13.4                                                                              |                                                                                   |                                                                                   | 23.1                                                                              |                                                                                   | 41.2                                                                              | 34.2                                                                                | 44.9                                                                                |                                                                                     |                                                                                     | 14.4                                                                                |
| Queue Delay             | 0.0                                                                               | 0.8                                                                               |                                                                                   |                                                                                   | 0.4                                                                               |                                                                                   | 1.6                                                                               | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |                                                                                     | 0.2                                                                                 |
| Total Delay             | 22.3                                                                              | 14.2                                                                              |                                                                                   |                                                                                   | 23.5                                                                              |                                                                                   | 42.8                                                                              | 34.2                                                                                | 44.9                                                                                |                                                                                     |                                                                                     | 14.6                                                                                |
| LOS                     | C                                                                                 | B                                                                                 |                                                                                   |                                                                                   | C                                                                                 |                                                                                   | D                                                                                 | C                                                                                   | D                                                                                   |                                                                                     |                                                                                     | B                                                                                   |
| Approach Delay          |                                                                                   | 15.1                                                                              |                                                                                   |                                                                                   | 23.5                                                                              |                                                                                   |                                                                                   | 43.2                                                                                |                                                                                     |                                                                                     | 14.6                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | B                                                                                 |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | D                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 46                                                                                | 140                                                                               |                                                                                   |                                                                                   | 396                                                                               |                                                                                   | 108                                                                               | 40                                                                                  | 166                                                                                 |                                                                                     |                                                                                     | 0                                                                                   |
| Queue Length 95th (ft)  | m46                                                                               | m135                                                                              |                                                                                   |                                                                                   | 564                                                                               |                                                                                   | 168                                                                               | 76                                                                                  | #308                                                                                |                                                                                     |                                                                                     | 42                                                                                  |
| Internal Link Dist (ft) |                                                                                   | 280                                                                               |                                                                                   |                                                                                   | 1002                                                                              |                                                                                   |                                                                                   | 559                                                                                 |                                                                                     |                                                                                     | 420                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 85                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 310                                                                               |                                                                                     | 100                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| Base Capacity (vph)     | 383                                                                               | 2362                                                                              |                                                                                   |                                                                                   | 1918                                                                              |                                                                                   | 452                                                                               | 477                                                                                 | 538                                                                                 |                                                                                     |                                                                                     | 420                                                                                 |
| Starvation Cap Reductn  | 0                                                                                 | 1107                                                                              |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 143                                                                               |                                                                                   | 145                                                                               | 0                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 26                                                                                  |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |
| Reduced v/c Ratio       | 0.30                                                                              | 0.67                                                                              |                                                                                   |                                                                                   | 0.80                                                                              |                                                                                   | 0.58                                                                              | 0.15                                                                                | 0.79                                                                                |                                                                                     |                                                                                     | 0.44                                                                                |

### Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 87 (79%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 24.7

Intersection LOS: C

Intersection Capacity Utilization 67.8%

ICU Level of Service C

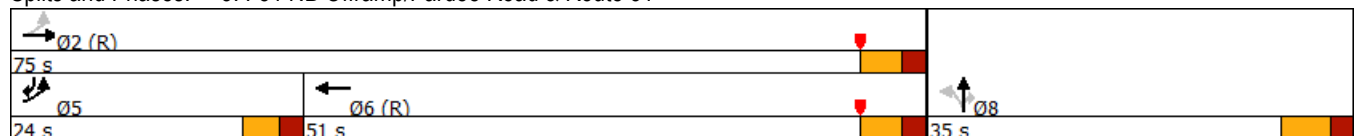
Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: I-81 NB Offramp/Pardee Road & Route 31





# Lanes, Volumes, Timings

## 4: Route 31 & Lakeshore Road

07/05/2022

|                            |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | WBT                                                                               | WBR                                                                               | SBL                                                                               | SBR                                                                               |
| Lane Configurations        |  |  |  |                                                                                   |  |                                                                                   |
| Traffic Volume (vph)       | 179                                                                               | 900                                                                               | 636                                                                               | 1                                                                                 | 0                                                                                 | 647                                                                               |
| Future Volume (vph)        | 179                                                                               | 900                                                                               | 636                                                                               | 1                                                                                 | 0                                                                                 | 647                                                                               |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Storage Length (ft)        | 225                                                                               |                                                                                   |                                                                                   | 0                                                                                 | 0                                                                                 | 0                                                                                 |
| Storage Lanes              | 1                                                                                 |                                                                                   |                                                                                   | 0                                                                                 | 1                                                                                 | 0                                                                                 |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |
| Satd. Flow (prot)          | 1770                                                                              | 3539                                                                              | 1845                                                                              | 0                                                                                 | 1627                                                                              | 0                                                                                 |
| Flt Permitted              | 0.950                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Satd. Flow (perm)          | 1770                                                                              | 3539                                                                              | 1845                                                                              | 0                                                                                 | 1627                                                                              | 0                                                                                 |
| Link Speed (mph)           |                                                                                   | 35                                                                                | 35                                                                                |                                                                                   | 35                                                                                |                                                                                   |
| Link Distance (ft)         |                                                                                   | 1082                                                                              | 959                                                                               |                                                                                   | 962                                                                               |                                                                                   |
| Travel Time (s)            |                                                                                   | 21.1                                                                              | 18.7                                                                              |                                                                                   | 18.7                                                                              |                                                                                   |
| Confl. Peds. (#/hr)        | 1                                                                                 |                                                                                   |                                                                                   | 1                                                                                 |                                                                                   | 1                                                                                 |
| Peak Hour Factor           | 0.79                                                                              | 0.79                                                                              | 0.83                                                                              | 0.83                                                                              | 0.93                                                                              | 0.93                                                                              |
| Heavy Vehicles (%)         | 2%                                                                                | 2%                                                                                | 3%                                                                                | 3%                                                                                | 1%                                                                                | 1%                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)      | 227                                                                               | 1139                                                                              | 767                                                                               | 0                                                                                 | 696                                                                               | 0                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment             | Left                                                                              | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Right                                                                             |
| Median Width(ft)           |                                                                                   | 12                                                                                | 12                                                                                |                                                                                   | 12                                                                                |                                                                                   |
| Link Offset(ft)            |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 |                                                                                   |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                | 16                                                                                |                                                                                   | 16                                                                                |                                                                                   |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (mph)        | 15                                                                                |                                                                                   |                                                                                   | 9                                                                                 | 15                                                                                | 9                                                                                 |
| Sign Control               |                                                                                   | Free                                                                              | Free                                                                              |                                                                                   | Stop                                                                              |                                                                                   |

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 93.6%

ICU Level of Service F

Analysis Period (min) 15



HCM 6th TWSC  
4: Route 31 & Lakeshore Road

07/05/2022

Intersection

| Int Delay, s/veh         | 90.6 |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Movement                 | EBL  | EBT  | WBT  | WBR  | SBL  | SBR  |
| Lane Configurations      | ↰    | ↗↗   | ↰    |      | ↰    |      |
| Traffic Vol, veh/h       | 179  | 900  | 636  | 1    | 0    | 647  |
| Future Vol, veh/h        | 179  | 900  | 636  | 1    | 0    | 647  |
| Conflicting Peds, #/hr   | 1    | 0    | 0    | 1    | 0    | 1    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | 225  | -    | -    | -    | 0    | -    |
| Veh in Median Storage, # | -    | 0    | 0    | -    | 0    | -    |
| Grade, %                 | -    | 0    | 0    | -    | 0    | -    |
| Peak Hour Factor         | 79   | 79   | 83   | 83   | 93   | 93   |
| Heavy Vehicles, %        | 2    | 2    | 3    | 3    | 1    | 1    |
| Mvmt Flow                | 227  | 1139 | 766  | 1    | 0    | 696  |

| Major/Minor          | Major1 | Major2 | Minor2          |
|----------------------|--------|--------|-----------------|
| Conflicting Flow All | 768    | 0      | 0 1792 769      |
| Stage 1              | -      | -      | - 768 -         |
| Stage 2              | -      | -      | - 1024 -        |
| Critical Hdwy        | 4.13   | -      | - 6.615 6.215   |
| Critical Hdwy Stg 1  | -      | -      | - 5.415 -       |
| Critical Hdwy Stg 2  | -      | -      | - 5.815 -       |
| Follow-up Hdwy       | 2.219  | -      | - 3.5095 3.3095 |
| Pot Cap-1 Maneuver   | 844    | -      | - 81 ~ 402      |
| Stage 1              | -      | -      | - 459 -         |
| Stage 2              | -      | -      | - 310 -         |
| Platoon blocked, %   | -      | -      | -               |
| Mov Cap-1 Maneuver   | 843    | -      | - 59 ~ 401      |
| Mov Cap-2 Maneuver   | -      | -      | - 59 -          |
| Stage 1              | -      | -      | - 335 -         |
| Stage 2              | -      | -      | - 310 -         |

| Approach             | EB  | WB | SB       |
|----------------------|-----|----|----------|
| HCM Control Delay, s | 1.8 | 0  | \$ 364.7 |
| HCM LOS              |     |    | F        |

| Minor Lane/Major Mvmt | EBL   | EBT | WBT | WBR | SBLn1    |
|-----------------------|-------|-----|-----|-----|----------|
| Capacity (veh/h)      | 843   | -   | -   | -   | 401      |
| HCM Lane V/C Ratio    | 0.269 | -   | -   | -   | 1.735    |
| HCM Control Delay (s) | 10.8  | -   | -   | -   | \$ 364.7 |
| HCM Lane LOS          | B     | -   | -   | -   | F        |
| HCM 95th %tile Q(veh) | 1.1   | -   | -   | -   | 42.9     |

Notes

~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon



Lanes, Volumes, Timings  
5: South Bay Road & Route 31

07/05/2022

|                            |  |  |  |  |  |  |   |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |  |  |                                                                                   |  |  |                                                                                   |  |  |                                                                                     |  |  |                                                                                     |
| Traffic Volume (vph)       | 22                                                                                | 224                                                                               | 70                                                                                | 165                                                                               | 229                                                                               | 6                                                                                 | 64                                                                                 | 91                                                                                  | 73                                                                                  | 7                                                                                   | 292                                                                                 | 63                                                                                  |
| Future Volume (vph)        | 22                                                                                | 224                                                                               | 70                                                                                | 165                                                                               | 229                                                                               | 6                                                                                 | 64                                                                                 | 91                                                                                  | 73                                                                                  | 7                                                                                   | 292                                                                                 | 63                                                                                  |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                               | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 225                                                                               |                                                                                   | 0                                                                                 | 225                                                                               |                                                                                   | 0                                                                                 | 280                                                                                |                                                                                     | 0                                                                                   | 225                                                                                 |                                                                                     | 0                                                                                   |
| Storage Lanes              | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                  |                                                                                     | 0                                                                                   | 1                                                                                   |                                                                                     | 0                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                 |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 1719                                                                              | 1744                                                                              | 0                                                                                 | 1770                                                                              | 1855                                                                              | 0                                                                                 | 1719                                                                               | 1688                                                                                | 0                                                                                   | 1770                                                                                | 1812                                                                                | 0                                                                                   |
| Flt Permitted              | 0.601                                                                             |                                                                                   |                                                                                   | 0.361                                                                             |                                                                                   |                                                                                   | 0.253                                                                              |                                                                                     |                                                                                     | 0.635                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)          | 1088                                                                              | 1744                                                                              | 0                                                                                 | 672                                                                               | 1855                                                                              | 0                                                                                 | 458                                                                                | 1688                                                                                | 0                                                                                   | 1183                                                                                | 1812                                                                                | 0                                                                                   |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                    |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   | 15                                                                                |                                                                                   |                                                                                   | 1                                                                                 |                                                                                   |                                                                                    | 35                                                                                  |                                                                                     |                                                                                     | 10                                                                                  |                                                                                     |
| Link Speed (mph)           |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 55                                                                                |                                                                                   |                                                                                    | 45                                                                                  |                                                                                     |                                                                                     | 45                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 788                                                                               |                                                                                   |                                                                                   | 825                                                                               |                                                                                   |                                                                                    | 794                                                                                 |                                                                                     |                                                                                     | 652                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 11.9                                                                              |                                                                                   |                                                                                   | 10.2                                                                              |                                                                                   |                                                                                    | 12.0                                                                                |                                                                                     |                                                                                     | 9.9                                                                                 |                                                                                     |
| Peak Hour Factor           | 0.91                                                                              | 0.91                                                                              | 0.91                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.84                                                                               | 0.84                                                                                | 0.84                                                                                | 0.89                                                                                | 0.89                                                                                | 0.89                                                                                |
| Heavy Vehicles (%)         | 5%                                                                                | 5%                                                                                | 5%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 5%                                                                                 | 5%                                                                                  | 5%                                                                                  | 2%                                                                                  | 2%                                                                                  | 2%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 24                                                                                | 323                                                                               | 0                                                                                 | 179                                                                               | 256                                                                               | 0                                                                                 | 76                                                                                 | 195                                                                                 | 0                                                                                   | 8                                                                                   | 399                                                                                 | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                 | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                               | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                    | 12                                                                                  |                                                                                     |                                                                                     | 12                                                                                  |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                    | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                    | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                 |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                              | NA                                                                                  |                                                                                     | pm+pt                                                                               | NA                                                                                  |                                                                                     |
| Protected Phases           | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 3                                                                                  | 8                                                                                   |                                                                                     | 7                                                                                   | 4                                                                                   |                                                                                     |
| Permitted Phases           | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                  |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |                                                                                     |
| Detector Phase             | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 3                                                                                  | 8                                                                                   |                                                                                     | 7                                                                                   | 4                                                                                   |                                                                                     |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 6.0                                                                               | 15.0                                                                              |                                                                                   | 6.0                                                                               | 15.0                                                                              |                                                                                   | 6.0                                                                                | 10.0                                                                                |                                                                                     | 6.0                                                                                 | 10.0                                                                                |                                                                                     |
| Minimum Split (s)          | 10.5                                                                              | 22.8                                                                              |                                                                                   | 10.5                                                                              | 22.8                                                                              |                                                                                   | 10.5                                                                               | 16.8                                                                                |                                                                                     | 10.5                                                                                | 16.8                                                                                |                                                                                     |
| Total Split (s)            | 15.0                                                                              | 45.0                                                                              |                                                                                   | 15.0                                                                              | 45.0                                                                              |                                                                                   | 15.0                                                                               | 35.0                                                                                |                                                                                     | 15.0                                                                                | 35.0                                                                                |                                                                                     |
| Total Split (%)            | 13.6%                                                                             | 40.9%                                                                             |                                                                                   | 13.6%                                                                             | 40.9%                                                                             |                                                                                   | 13.6%                                                                              | 31.8%                                                                               |                                                                                     | 13.6%                                                                               | 31.8%                                                                               |                                                                                     |
| Maximum Green (s)          | 10.5                                                                              | 37.2                                                                              |                                                                                   | 10.5                                                                              | 37.2                                                                              |                                                                                   | 10.5                                                                               | 28.2                                                                                |                                                                                     | 10.5                                                                                | 28.2                                                                                |                                                                                     |
| Yellow Time (s)            | 3.5                                                                               | 4.9                                                                               |                                                                                   | 3.5                                                                               | 4.9                                                                               |                                                                                   | 3.5                                                                                | 4.9                                                                                 |                                                                                     | 3.5                                                                                 | 4.9                                                                                 |                                                                                     |
| All-Red Time (s)           | 1.0                                                                               | 2.9                                                                               |                                                                                   | 1.0                                                                               | 2.9                                                                               |                                                                                   | 1.0                                                                                | 1.9                                                                                 |                                                                                     | 1.0                                                                                 | 1.9                                                                                 |                                                                                     |
| Lost Time Adjust (s)       | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                                | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)        | 4.5                                                                               | 7.8                                                                               |                                                                                   | 4.5                                                                               | 7.8                                                                               |                                                                                   | 4.5                                                                                | 6.8                                                                                 |                                                                                     | 4.5                                                                                 | 6.8                                                                                 |                                                                                     |
| Lead/Lag                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                               | Lag                                                                                 |                                                                                     | Lead                                                                                | Lag                                                                                 |                                                                                     |
| Lead-Lag Optimize?         | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                                | Yes                                                                                 |                                                                                     | Yes                                                                                 | Yes                                                                                 |                                                                                     |
| Vehicle Extension (s)      | 3.0                                                                               | 6.0                                                                               |                                                                                   | 3.0                                                                               | 6.0                                                                               |                                                                                   | 3.0                                                                                | 6.0                                                                                 |                                                                                     | 3.0                                                                                 | 6.0                                                                                 |                                                                                     |
| Minimum Gap (s)            | 3.0                                                                               | 2.0                                                                               |                                                                                   | 3.0                                                                               | 2.0                                                                               |                                                                                   | 3.0                                                                                | 2.0                                                                                 |                                                                                     | 3.0                                                                                 | 2.0                                                                                 |                                                                                     |
| Time Before Reduce (s)     | 0.0                                                                               | 10.0                                                                              |                                                                                   | 0.0                                                                               | 10.0                                                                              |                                                                                   | 0.0                                                                                | 10.0                                                                                |                                                                                     | 0.0                                                                                 | 10.0                                                                                |                                                                                     |
| Time To Reduce (s)         | 0.0                                                                               | 15.0                                                                              |                                                                                   | 0.0                                                                               | 15.0                                                                              |                                                                                   | 0.0                                                                                | 15.0                                                                                |                                                                                     | 0.0                                                                                 | 15.0                                                                                |                                                                                     |
| Recall Mode                | None                                                                              | Min                                                                               |                                                                                   | None                                                                              | Min                                                                               |                                                                                   | None                                                                               | None                                                                                |                                                                                     | None                                                                                | None                                                                                |                                                                                     |
| Act Effect Green (s)       | 34.5                                                                              | 24.3                                                                              |                                                                                   | 41.9                                                                              | 34.8                                                                              |                                                                                   | 37.3                                                                               | 33.2                                                                                |                                                                                     | 32.3                                                                                | 25.3                                                                                |                                                                                     |



# Lanes, Volumes, Timings

## 5: South Bay Road & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Actuated g/C Ratio      | 0.39                                                                              | 0.27                                                                              |                                                                                   | 0.47                                                                              | 0.39                                                                              |                                                                                   | 0.42                                                                               | 0.37                                                                                |                                                                                     | 0.36                                                                                | 0.28                                                                                |                                                                                     |
| v/c Ratio               | 0.05                                                                              | 0.67                                                                              |                                                                                   | 0.41                                                                              | 0.35                                                                              |                                                                                   | 0.25                                                                               | 0.30                                                                                |                                                                                     | 0.02                                                                                | 0.77                                                                                |                                                                                     |
| Control Delay           | 14.8                                                                              | 36.2                                                                              |                                                                                   | 18.2                                                                              | 24.1                                                                              |                                                                                   | 18.8                                                                               | 19.3                                                                                |                                                                                     | 17.1                                                                                | 41.9                                                                                |                                                                                     |
| Queue Delay             | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                                | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Delay             | 14.8                                                                              | 36.2                                                                              |                                                                                   | 18.2                                                                              | 24.1                                                                              |                                                                                   | 18.8                                                                               | 19.3                                                                                |                                                                                     | 17.1                                                                                | 41.9                                                                                |                                                                                     |
| LOS                     | B                                                                                 | D                                                                                 |                                                                                   | B                                                                                 | C                                                                                 |                                                                                   | B                                                                                  | B                                                                                   |                                                                                     | B                                                                                   | D                                                                                   |                                                                                     |
| Approach Delay          |                                                                                   | 34.7                                                                              |                                                                                   |                                                                                   | 21.7                                                                              |                                                                                   |                                                                                    | 19.2                                                                                |                                                                                     |                                                                                     | 41.4                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                    | B                                                                                   |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 8                                                                                 | 168                                                                               |                                                                                   | 64                                                                                | 101                                                                               |                                                                                   | 25                                                                                 | 59                                                                                  |                                                                                     | 3                                                                                   | 208                                                                                 |                                                                                     |
| Queue Length 95th (ft)  | 22                                                                                | 267                                                                               |                                                                                   | 110                                                                               | 203                                                                               |                                                                                   | 57                                                                                 | 138                                                                                 |                                                                                     | 12                                                                                  | #405                                                                                |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 708                                                                               |                                                                                   |                                                                                   | 745                                                                               |                                                                                   |                                                                                    | 714                                                                                 |                                                                                     |                                                                                     | 572                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 225                                                                               |                                                                                   |                                                                                   | 225                                                                               |                                                                                   |                                                                                   | 280                                                                                |                                                                                     |                                                                                     | 225                                                                                 |                                                                                     |                                                                                     |
| Base Capacity (vph)     | 549                                                                               | 769                                                                               |                                                                                   | 450                                                                               | 820                                                                               |                                                                                   | 346                                                                                | 712                                                                                 |                                                                                     | 543                                                                                 | 606                                                                                 |                                                                                     |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       | 0.04                                                                              | 0.42                                                                              |                                                                                   | 0.40                                                                              | 0.31                                                                              |                                                                                   | 0.22                                                                               | 0.27                                                                                |                                                                                     | 0.01                                                                                | 0.66                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 89.2

Natural Cycle: 70

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 29.8

Intersection LOS: C

Intersection Capacity Utilization 69.0%

ICU Level of Service C

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

### Splits and Phases: 5: South Bay Road & Route 31

|                                                                                        |                                                                                        |                                                                                        |                                                                                          |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
|  Ø1 |  Ø2 |  Ø3 |  Ø4 |
| 15 s                                                                                   | 45 s                                                                                   | 15 s                                                                                   | 35 s                                                                                     |
|  Ø5 |  Ø6 |  Ø7 |  Ø8 |
| 15 s                                                                                   | 45 s                                                                                   | 15 s                                                                                   | 35 s                                                                                     |



# Lanes, Volumes, Timings

## 6: Cicero Center Road & Route 31

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (vph)       | 35                                                                                | 244                                                                               | 14                                                                                | 8                                                                                 | 277                                                                               | 12                                                                                | 9                                                                                 | 8                                                                                   | 5                                                                                   | 26                                                                                  | 29                                                                                  | 78                                                                                  |
| Future Volume (vph)        | 35                                                                                | 244                                                                               | 14                                                                                | 8                                                                                 | 277                                                                               | 12                                                                                | 9                                                                                 | 8                                                                                   | 5                                                                                   | 26                                                                                  | 29                                                                                  | 78                                                                                  |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Satd. Flow (prot)          | 0                                                                                 | 1840                                                                              | 0                                                                                 | 0                                                                                 | 1852                                                                              | 0                                                                                 | 0                                                                                 | 1785                                                                                | 0                                                                                   | 0                                                                                   | 1715                                                                                | 0                                                                                   |
| Flt Permitted              |                                                                                   | 0.935                                                                             |                                                                                   |                                                                                   | 0.990                                                                             |                                                                                   |                                                                                   | 0.848                                                                               |                                                                                     |                                                                                     | 0.925                                                                               |                                                                                     |
| Satd. Flow (perm)          | 0                                                                                 | 1731                                                                              | 0                                                                                 | 0                                                                                 | 1835                                                                              | 0                                                                                 | 0                                                                                 | 1544                                                                                | 0                                                                                   | 0                                                                                   | 1603                                                                                | 0                                                                                   |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   | 7                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 6                                                                                   |                                                                                     |                                                                                     | 108                                                                                 |                                                                                     |
| Link Speed (mph)           |                                                                                   | 55                                                                                |                                                                                   |                                                                                   | 55                                                                                |                                                                                   |                                                                                   | 55                                                                                  |                                                                                     |                                                                                     | 55                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 583                                                                               |                                                                                   |                                                                                   | 608                                                                               |                                                                                   |                                                                                   | 500                                                                                 |                                                                                     |                                                                                     | 505                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 7.2                                                                               |                                                                                   |                                                                                   | 7.5                                                                               |                                                                                   |                                                                                   | 6.2                                                                                 |                                                                                     |                                                                                     | 6.3                                                                                 |                                                                                     |
| Peak Hour Factor           | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                                | 0.90                                                                                | 0.72                                                                                | 0.72                                                                                | 0.72                                                                                |
| Heavy Vehicles (%)         | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 1%                                                                                | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 0                                                                                 | 315                                                                               | 0                                                                                 | 0                                                                                 | 330                                                                               | 0                                                                                 | 0                                                                                 | 25                                                                                  | 0                                                                                   | 0                                                                                   | 184                                                                                 | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                  |                                                                                     | Perm                                                                                | NA                                                                                  |                                                                                     |
| Protected Phases           |                                                                                   | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                   |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |
| Permitted Phases           | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |                                                                                     |
| Detector Phase             | 2                                                                                 | 2                                                                                 |                                                                                   | 6                                                                                 | 6                                                                                 |                                                                                   | 8                                                                                 | 8                                                                                   |                                                                                     | 4                                                                                   | 4                                                                                   |                                                                                     |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 15.0                                                                              | 15.0                                                                              |                                                                                   | 15.0                                                                              | 15.0                                                                              |                                                                                   | 7.0                                                                               | 7.0                                                                                 |                                                                                     | 7.0                                                                                 | 7.0                                                                                 |                                                                                     |
| Minimum Split (s)          | 21.0                                                                              | 21.0                                                                              |                                                                                   | 21.0                                                                              | 21.0                                                                              |                                                                                   | 12.0                                                                              | 12.0                                                                                |                                                                                     | 12.0                                                                                | 12.0                                                                                |                                                                                     |
| Total Split (s)            | 30.0                                                                              | 30.0                                                                              |                                                                                   | 30.0                                                                              | 30.0                                                                              |                                                                                   | 20.0                                                                              | 20.0                                                                                |                                                                                     | 20.0                                                                                | 20.0                                                                                |                                                                                     |
| Total Split (%)            | 60.0%                                                                             | 60.0%                                                                             |                                                                                   | 60.0%                                                                             | 60.0%                                                                             |                                                                                   | 40.0%                                                                             | 40.0%                                                                               |                                                                                     | 40.0%                                                                               | 40.0%                                                                               |                                                                                     |
| Maximum Green (s)          | 24.0                                                                              | 24.0                                                                              |                                                                                   | 24.0                                                                              | 24.0                                                                              |                                                                                   | 15.0                                                                              | 15.0                                                                                |                                                                                     | 15.0                                                                                | 15.0                                                                                |                                                                                     |
| Yellow Time (s)            | 4.0                                                                               | 4.0                                                                               |                                                                                   | 4.0                                                                               | 4.0                                                                               |                                                                                   | 4.0                                                                               | 4.0                                                                                 |                                                                                     | 4.0                                                                                 | 4.0                                                                                 |                                                                                     |
| All-Red Time (s)           | 2.0                                                                               | 2.0                                                                               |                                                                                   | 2.0                                                                               | 2.0                                                                               |                                                                                   | 1.0                                                                               | 1.0                                                                                 |                                                                                     | 1.0                                                                                 | 1.0                                                                                 |                                                                                     |
| Lost Time Adjust (s)       |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                                 |                                                                                     |                                                                                     | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)        |                                                                                   | 6.0                                                                               |                                                                                   |                                                                                   | 6.0                                                                               |                                                                                   |                                                                                   | 5.0                                                                                 |                                                                                     |                                                                                     | 5.0                                                                                 |                                                                                     |
| Lead/Lag                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?         |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Vehicle Extension (s)      | 5.0                                                                               | 5.0                                                                               |                                                                                   | 5.0                                                                               | 5.0                                                                               |                                                                                   | 2.0                                                                               | 2.0                                                                                 |                                                                                     | 2.0                                                                                 | 2.0                                                                                 |                                                                                     |
| Recall Mode                | Max                                                                               | Max                                                                               |                                                                                   | Max                                                                               | Max                                                                               |                                                                                   | None                                                                              | None                                                                                |                                                                                     | None                                                                                | None                                                                                |                                                                                     |
| Act Effect Green (s)       |                                                                                   | 28.1                                                                              |                                                                                   |                                                                                   | 28.1                                                                              |                                                                                   |                                                                                   | 8.1                                                                                 |                                                                                     |                                                                                     | 8.1                                                                                 |                                                                                     |
| Actuated g/C Ratio         |                                                                                   | 0.64                                                                              |                                                                                   |                                                                                   | 0.64                                                                              |                                                                                   |                                                                                   | 0.19                                                                                |                                                                                     |                                                                                     | 0.19                                                                                |                                                                                     |
| v/c Ratio                  |                                                                                   | 0.28                                                                              |                                                                                   |                                                                                   | 0.28                                                                              |                                                                                   |                                                                                   | 0.09                                                                                |                                                                                     |                                                                                     | 0.48                                                                                |                                                                                     |
| Control Delay              |                                                                                   | 6.0                                                                               |                                                                                   |                                                                                   | 5.9                                                                               |                                                                                   |                                                                                   | 13.1                                                                                |                                                                                     |                                                                                     | 12.0                                                                                |                                                                                     |
| Queue Delay                |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                                 |                                                                                     |                                                                                     | 0.0                                                                                 |                                                                                     |
| Total Delay                |                                                                                   | 6.0                                                                               |                                                                                   |                                                                                   | 5.9                                                                               |                                                                                   |                                                                                   | 13.1                                                                                |                                                                                     |                                                                                     | 12.0                                                                                |                                                                                     |
| LOS                        |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | B                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |



# Lanes, Volumes, Timings

## 6: Cicero Center Road & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Approach Delay          |                                                                                   | 6.0                                                                               |                                                                                   |                                                                                   | 5.9                                                                               |                                                                                   |                                                                                   | 13.1                                                                                |                                                                                     |                                                                                     | 12.0                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | B                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| Queue Length 50th (ft)  |                                                                                   | 31                                                                                |                                                                                   |                                                                                   | 33                                                                                |                                                                                   |                                                                                   | 4                                                                                   |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Queue Length 95th (ft)  |                                                                                   | 81                                                                                |                                                                                   |                                                                                   | 83                                                                                |                                                                                   |                                                                                   | 17                                                                                  |                                                                                     |                                                                                     | 37                                                                                  |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 503                                                                               |                                                                                   |                                                                                   | 528                                                                               |                                                                                   |                                                                                   | 420                                                                                 |                                                                                     |                                                                                     | 425                                                                                 |                                                                                     |
| Turn Bay Length (ft)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Base Capacity (vph)     |                                                                                   | 1116                                                                              |                                                                                   |                                                                                   | 1183                                                                              |                                                                                   |                                                                                   | 534                                                                                 |                                                                                     |                                                                                     | 621                                                                                 |                                                                                     |
| Starvation Cap Reductn  |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       |                                                                                   | 0.28                                                                              |                                                                                   |                                                                                   | 0.28                                                                              |                                                                                   |                                                                                   | 0.05                                                                                |                                                                                     |                                                                                     | 0.30                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Cycle Length: 50

Actuated Cycle Length: 43.7

Natural Cycle: 40

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.48

Intersection Signal Delay: 7.5

Intersection Capacity Utilization 48.5%

Analysis Period (min) 15

Intersection LOS: A

ICU Level of Service A

Splits and Phases: 6: Cicero Center Road & Route 31

|                                                                                        |  |                                                                                        |
|----------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------|
|  Ø2 |  |  Ø4 |
| 30 s                                                                                   |  | 20 s                                                                                   |
|  Ø6 |  |  Ø8 |
| 30 s                                                                                   |  | 20 s                                                                                   |



Lanes, Volumes, Timings  
7: Route 31 & Lakeshore Road (East)

07/05/2022

|                            |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | WBT                                                                               | WBR                                                                               | SBL                                                                               | SBR                                                                               |
| Lane Configurations        |                                                                                   |  |  |                                                                                   |  |                                                                                   |
| Traffic Volume (vph)       | 17                                                                                | 256                                                                               | 283                                                                               | 25                                                                                | 30                                                                                | 35                                                                                |
| Future Volume (vph)        | 17                                                                                | 256                                                                               | 283                                                                               | 25                                                                                | 30                                                                                | 35                                                                                |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Satd. Flow (prot)          | 0                                                                                 | 1876                                                                              | 1860                                                                              | 0                                                                                 | 1706                                                                              | 0                                                                                 |
| Flt Permitted              |                                                                                   | 0.997                                                                             |                                                                                   |                                                                                   | 0.977                                                                             |                                                                                   |
| Satd. Flow (perm)          | 0                                                                                 | 1876                                                                              | 1860                                                                              | 0                                                                                 | 1706                                                                              | 0                                                                                 |
| Link Speed (mph)           |                                                                                   | 55                                                                                | 55                                                                                |                                                                                   | 35                                                                                |                                                                                   |
| Link Distance (ft)         |                                                                                   | 516                                                                               | 592                                                                               |                                                                                   | 420                                                                               |                                                                                   |
| Travel Time (s)            |                                                                                   | 6.4                                                                               | 7.3                                                                               |                                                                                   | 8.2                                                                               |                                                                                   |
| Confl. Peds. (#/hr)        |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 2                                                                                 |
| Peak Hour Factor           | 0.88                                                                              | 0.88                                                                              | 0.90                                                                              | 0.90                                                                              | 0.79                                                                              | 0.79                                                                              |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)      | 0                                                                                 | 310                                                                               | 342                                                                               | 0                                                                                 | 82                                                                                | 0                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment             | Left                                                                              | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Right                                                                             |
| Median Width(ft)           |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 12                                                                                |                                                                                   |
| Link Offset(ft)            |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 |                                                                                   |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                | 16                                                                                |                                                                                   | 16                                                                                |                                                                                   |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (mph)        | 15                                                                                |                                                                                   |                                                                                   | 9                                                                                 | 15                                                                                | 9                                                                                 |
| Sign Control               |                                                                                   | Free                                                                              | Free                                                                              |                                                                                   | Stop                                                                              |                                                                                   |

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 38.6%

ICU Level of Service A

Analysis Period (min) 15



HCM 6th TWSC  
7: Route 31 & Lakeshore Road (East)

07/05/2022

Intersection

Int Delay, s/veh 1.6

| Movement                 | EBL  | EBT                                                                               | WBT                                                                               | WBR  | SBL                                                                               | SBR  |
|--------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|------|
| Lane Configurations      |      |  |  |      |  |      |
| Traffic Vol, veh/h       | 17   | 256                                                                               | 283                                                                               | 25   | 30                                                                                | 35   |
| Future Vol, veh/h        | 17   | 256                                                                               | 283                                                                               | 25   | 30                                                                                | 35   |
| Conflicting Peds, #/hr   | 0    | 0                                                                                 | 0                                                                                 | 0    | 0                                                                                 | 2    |
| Sign Control             | Free | Free                                                                              | Free                                                                              | Free | Stop                                                                              | Stop |
| RT Channelized           | -    | None                                                                              | -                                                                                 | None | -                                                                                 | None |
| Storage Length           | -    | -                                                                                 | -                                                                                 | -    | 0                                                                                 | -    |
| Veh in Median Storage, # | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Grade, %                 | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Peak Hour Factor         | 88   | 88                                                                                | 90                                                                                | 90   | 79                                                                                | 79   |
| Heavy Vehicles, %        | 1    | 1                                                                                 | 1                                                                                 | 1    | 1                                                                                 | 1    |
| Mvmt Flow                | 19   | 291                                                                               | 314                                                                               | 28   | 38                                                                                | 44   |

| Major/Minor          | Major1 | Major2 | Minor2        |
|----------------------|--------|--------|---------------|
| Conflicting Flow All | 342    | 0      | 0 657 330     |
| Stage 1              | -      | -      | - 328 -       |
| Stage 2              | -      | -      | - 329 -       |
| Critical Hdwy        | 4.11   | -      | - 6.41 6.21   |
| Critical Hdwy Stg 1  | -      | -      | - 5.41 -      |
| Critical Hdwy Stg 2  | -      | -      | - 5.41 -      |
| Follow-up Hdwy       | 2.209  | -      | - 3.509 3.309 |
| Pot Cap-1 Maneuver   | 1223   | -      | - 431 714     |
| Stage 1              | -      | -      | - 732 -       |
| Stage 2              | -      | -      | - 731 -       |
| Platoon blocked, %   | -      | -      | -             |
| Mov Cap-1 Maneuver   | 1223   | -      | - 423 713     |
| Mov Cap-2 Maneuver   | -      | -      | - 423 -       |
| Stage 1              | -      | -      | - 718 -       |
| Stage 2              | -      | -      | - 731 -       |

| Approach             | EB  | WB | SB   |
|----------------------|-----|----|------|
| HCM Control Delay, s | 0.5 | 0  | 12.8 |
| HCM LOS              |     |    | B    |

| Minor Lane/Major Mvmt | EBL   | EBT | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-----|-------|
| Capacity (veh/h)      | 1223  | -   | -   | -   | 542   |
| HCM Lane V/C Ratio    | 0.016 | -   | -   | -   | 0.152 |
| HCM Control Delay (s) | 8     | 0   | -   | -   | 12.8  |
| HCM Lane LOS          | A     | A   | -   | -   | B     |
| HCM 95th %tile Q(veh) | 0     | -   | -   | -   | 0.5   |



# Lanes, Volumes, Timings

## 8: Thompson Road & South Bay Road

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |  |  |                                                                                   |  |  |                                                                                   |                                                                                   |  |  |                                                                                     |  |  |
| Traffic Volume (vph)       | 260                                                                               | 280                                                                               | 6                                                                                 | 252                                                                               | 270                                                                               | 7                                                                                 | 7                                                                                 | 195                                                                                 | 156                                                                                 | 7                                                                                   | 206                                                                                 | 177                                                                                 |
| Future Volume (vph)        | 260                                                                               | 280                                                                               | 6                                                                                 | 252                                                                               | 270                                                                               | 7                                                                                 | 7                                                                                 | 195                                                                                 | 156                                                                                 | 7                                                                                   | 206                                                                                 | 177                                                                                 |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 300                                                                               |                                                                                   | 0                                                                                 | 250                                                                               |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                     | 210                                                                                 | 0                                                                                   |                                                                                     | 600                                                                                 |
| Storage Lanes              | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                     | 1                                                                                   | 0                                                                                   |                                                                                     | 1                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 1787                                                                              | 1876                                                                              | 0                                                                                 | 1787                                                                              | 1873                                                                              | 0                                                                                 | 0                                                                                 | 1841                                                                                | 1568                                                                                | 0                                                                                   | 1859                                                                                | 1583                                                                                |
| Flt Permitted              | 0.412                                                                             |                                                                                   |                                                                                   | 0.412                                                                             |                                                                                   |                                                                                   |                                                                                   | 0.986                                                                               |                                                                                     |                                                                                     | 0.987                                                                               |                                                                                     |
| Satd. Flow (perm)          | 774                                                                               | 1876                                                                              | 0                                                                                 | 775                                                                               | 1873                                                                              | 0                                                                                 | 0                                                                                 | 1819                                                                                | 1568                                                                                | 0                                                                                   | 1839                                                                                | 1583                                                                                |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   | 2                                                                                 |                                                                                   |                                                                                   | 2                                                                                 |                                                                                   |                                                                                   |                                                                                     | 195                                                                                 |                                                                                     |                                                                                     | 201                                                                                 |
| Link Speed (mph)           |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 45                                                                                  |                                                                                     |                                                                                     | 45                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 1324                                                                              |                                                                                   |                                                                                   | 1155                                                                              |                                                                                   |                                                                                   | 1095                                                                                |                                                                                     |                                                                                     | 1033                                                                                |                                                                                     |
| Travel Time (s)            |                                                                                   | 20.1                                                                              |                                                                                   |                                                                                   | 17.5                                                                              |                                                                                   |                                                                                   | 16.6                                                                                |                                                                                     |                                                                                     | 15.7                                                                                |                                                                                     |
| Confl. Peds. (#/hr)        | 1                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1                                                                                 |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Peak Hour Factor           | 0.89                                                                              | 0.89                                                                              | 0.89                                                                              | 0.86                                                                              | 0.86                                                                              | 0.86                                                                              | 0.80                                                                              | 0.80                                                                                | 0.80                                                                                | 0.88                                                                                | 0.88                                                                                | 0.88                                                                                |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 3%                                                                                | 3%                                                                                  | 3%                                                                                  | 2%                                                                                  | 2%                                                                                  | 2%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 292                                                                               | 322                                                                               | 0                                                                                 | 293                                                                               | 322                                                                               | 0                                                                                 | 0                                                                                 | 253                                                                                 | 195                                                                                 | 0                                                                                   | 242                                                                                 | 201                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                             | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                  | pm+ov                                                                               | Perm                                                                                | NA                                                                                  | pm+ov                                                                               |
| Protected Phases           | 7                                                                                 | 4                                                                                 |                                                                                   | 3                                                                                 | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                   | 3                                                                                   |                                                                                     | 6                                                                                   | 7                                                                                   |
| Permitted Phases           | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                 |                                                                                     | 2                                                                                   | 6                                                                                   |                                                                                     | 6                                                                                   |
| Detector Phase             | 7                                                                                 | 4                                                                                 |                                                                                   | 3                                                                                 | 8                                                                                 |                                                                                   | 2                                                                                 | 2                                                                                   | 3                                                                                   | 6                                                                                   | 6                                                                                   | 7                                                                                   |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 5.0                                                                               | 10.0                                                                              |                                                                                   | 5.0                                                                               | 5.0                                                                               |                                                                                   | 10.0                                                                              | 10.0                                                                                | 5.0                                                                                 | 10.0                                                                                | 10.0                                                                                | 5.0                                                                                 |
| Minimum Split (s)          | 12.0                                                                              | 17.0                                                                              |                                                                                   | 12.0                                                                              | 12.0                                                                              |                                                                                   | 16.5                                                                              | 16.5                                                                                | 12.0                                                                                | 16.5                                                                                | 16.5                                                                                | 12.0                                                                                |
| Total Split (s)            | 15.0                                                                              | 30.0                                                                              |                                                                                   | 15.0                                                                              | 30.0                                                                              |                                                                                   | 30.0                                                                              | 30.0                                                                                | 15.0                                                                                | 30.0                                                                                | 30.0                                                                                | 15.0                                                                                |
| Total Split (%)            | 20.0%                                                                             | 40.0%                                                                             |                                                                                   | 20.0%                                                                             | 40.0%                                                                             |                                                                                   | 40.0%                                                                             | 40.0%                                                                               | 20.0%                                                                               | 40.0%                                                                               | 40.0%                                                                               | 20.0%                                                                               |
| Maximum Green (s)          | 8.0                                                                               | 23.0                                                                              |                                                                                   | 8.0                                                                               | 23.0                                                                              |                                                                                   | 23.5                                                                              | 23.5                                                                                | 8.0                                                                                 | 23.5                                                                                | 23.5                                                                                | 8.0                                                                                 |
| Yellow Time (s)            | 4.0                                                                               | 4.0                                                                               |                                                                                   | 4.0                                                                               | 4.0                                                                               |                                                                                   | 3.5                                                                               | 3.5                                                                                 | 4.0                                                                                 | 3.5                                                                                 | 3.5                                                                                 | 4.0                                                                                 |
| All-Red Time (s)           | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |
| Lost Time Adjust (s)       | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                                 | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |
| Total Lost Time (s)        | 7.0                                                                               | 7.0                                                                               |                                                                                   | 7.0                                                                               | 7.0                                                                               |                                                                                   |                                                                                   | 6.5                                                                                 | 7.0                                                                                 |                                                                                     | 6.5                                                                                 | 7.0                                                                                 |
| Lead/Lag                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                              | Lag                                                                               |                                                                                   |                                                                                   |                                                                                     | Lead                                                                                |                                                                                     |                                                                                     | Lead                                                                                |
| Lead-Lag Optimize?         | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                               | Yes                                                                               |                                                                                   |                                                                                   |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Vehicle Extension (s)      | 3.0                                                                               | 2.0                                                                               |                                                                                   | 3.0                                                                               | 2.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |
| Recall Mode                | None                                                                              | Min                                                                               |                                                                                   | None                                                                              | Min                                                                               |                                                                                   | Max                                                                               | Max                                                                                 | None                                                                                | Max                                                                                 | Max                                                                                 | None                                                                                |
| Act Effect Green (s)       | 24.0                                                                              | 16.0                                                                              |                                                                                   | 24.0                                                                              | 16.0                                                                              |                                                                                   |                                                                                   | 23.6                                                                                | 38.2                                                                                |                                                                                     | 23.6                                                                                | 38.2                                                                                |
| Actuated g/C Ratio         | 0.35                                                                              | 0.23                                                                              |                                                                                   | 0.35                                                                              | 0.23                                                                              |                                                                                   |                                                                                   | 0.35                                                                                | 0.56                                                                                |                                                                                     | 0.35                                                                                | 0.56                                                                                |
| v/c Ratio                  | 0.75                                                                              | 0.73                                                                              |                                                                                   | 0.75                                                                              | 0.73                                                                              |                                                                                   |                                                                                   | 0.40                                                                                | 0.20                                                                                |                                                                                     | 0.38                                                                                | 0.21                                                                                |



# Lanes, Volumes, Timings

## 8: Thompson Road & South Bay Road

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Control Delay           | 26.6                                                                              | 34.2                                                                              |                                                                                   | 26.7                                                                              | 34.2                                                                              |                                                                                   |                                                                                   | 20.5                                                                                | 2.2                                                                                 |                                                                                     | 20.1                                                                                | 2.2                                                                                 |
| Queue Delay             | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                                 | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |
| Total Delay             | 26.6                                                                              | 34.2                                                                              |                                                                                   | 26.7                                                                              | 34.2                                                                              |                                                                                   |                                                                                   | 20.5                                                                                | 2.2                                                                                 |                                                                                     | 20.1                                                                                | 2.2                                                                                 |
| LOS                     | C                                                                                 | C                                                                                 |                                                                                   | C                                                                                 | C                                                                                 |                                                                                   |                                                                                   | C                                                                                   | A                                                                                   |                                                                                     | C                                                                                   | A                                                                                   |
| Approach Delay          |                                                                                   | 30.6                                                                              |                                                                                   |                                                                                   | 30.7                                                                              |                                                                                   |                                                                                   | 12.5                                                                                |                                                                                     |                                                                                     | 12.0                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | B                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 75                                                                                | 124                                                                               |                                                                                   | 75                                                                                | 124                                                                               |                                                                                   |                                                                                   | 78                                                                                  | 0                                                                                   |                                                                                     | 74                                                                                  | 0                                                                                   |
| Queue Length 95th (ft)  | #126                                                                              | 199                                                                               |                                                                                   | 118                                                                               | 190                                                                               |                                                                                   |                                                                                   | 136                                                                                 | 20                                                                                  |                                                                                     | 146                                                                                 | 28                                                                                  |
| Internal Link Dist (ft) |                                                                                   | 1244                                                                              |                                                                                   |                                                                                   | 1075                                                                              |                                                                                   |                                                                                   | 1015                                                                                |                                                                                     |                                                                                     | 953                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 300                                                                               |                                                                                   |                                                                                   | 250                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 210                                                                                 |                                                                                     |                                                                                     | 600                                                                                 |
| Base Capacity (vph)     | 391                                                                               | 636                                                                               |                                                                                   | 392                                                                               | 635                                                                               |                                                                                   |                                                                                   | 629                                                                                 | 963                                                                                 |                                                                                     | 636                                                                                 | 974                                                                                 |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |
| Reduced v/c Ratio       | 0.75                                                                              | 0.51                                                                              |                                                                                   | 0.75                                                                              | 0.51                                                                              |                                                                                   |                                                                                   | 0.40                                                                                | 0.20                                                                                |                                                                                     | 0.38                                                                                | 0.21                                                                                |

### Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 68.2

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 22.9

Intersection LOS: C

Intersection Capacity Utilization 62.6%

ICU Level of Service B

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

### Splits and Phases: 8: Thompson Road & South Bay Road

|                                                                                        |                                                                                        |                                                                                        |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
|  Ø2 |  Ø3 |  Ø4 |
| 30 s                                                                                   | 15 s                                                                                   | 30 s                                                                                   |
|  Ø6 |  Ø7 |  Ø8 |
| 30 s                                                                                   | 15 s                                                                                   | 30 s                                                                                   |



# Lanes, Volumes, Timings

## 9: Lakeshore Road & Mudd Mill Road

07/05/2022

|                            |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | WBT                                                                               | WBR                                                                               | SBL                                                                               | SBR                                                                               |
| Lane Configurations        |                                                                                   |  |  |                                                                                   |  |                                                                                   |
| Traffic Volume (vph)       | 16                                                                                | 98                                                                                | 180                                                                               | 73                                                                                | 89                                                                                | 34                                                                                |
| Future Volume (vph)        | 16                                                                                | 98                                                                                | 180                                                                               | 73                                                                                | 89                                                                                | 34                                                                                |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Satd. Flow (prot)          | 0                                                                                 | 1814                                                                              | 1723                                                                              | 0                                                                                 | 1682                                                                              | 0                                                                                 |
| Flt Permitted              |                                                                                   | 0.993                                                                             |                                                                                   |                                                                                   | 0.965                                                                             |                                                                                   |
| Satd. Flow (perm)          | 0                                                                                 | 1814                                                                              | 1723                                                                              | 0                                                                                 | 1682                                                                              | 0                                                                                 |
| Link Speed (mph)           |                                                                                   | 35                                                                                | 35                                                                                |                                                                                   | 35                                                                                |                                                                                   |
| Link Distance (ft)         |                                                                                   | 753                                                                               | 701                                                                               |                                                                                   | 545                                                                               |                                                                                   |
| Travel Time (s)            |                                                                                   | 14.7                                                                              | 13.7                                                                              |                                                                                   | 10.6                                                                              |                                                                                   |
| Peak Hour Factor           | 0.87                                                                              | 0.87                                                                              | 0.85                                                                              | 0.85                                                                              | 0.91                                                                              | 0.91                                                                              |
| Heavy Vehicles (%)         | 4%                                                                                | 4%                                                                                | 6%                                                                                | 6%                                                                                | 5%                                                                                | 5%                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)      | 0                                                                                 | 131                                                                               | 298                                                                               | 0                                                                                 | 135                                                                               | 0                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment             | Left                                                                              | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Right                                                                             |
| Median Width(ft)           |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 12                                                                                |                                                                                   |
| Link Offset(ft)            |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 |                                                                                   |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                | 16                                                                                |                                                                                   | 16                                                                                |                                                                                   |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (mph)        | 15                                                                                |                                                                                   |                                                                                   | 9                                                                                 | 15                                                                                | 9                                                                                 |
| Sign Control               |                                                                                   | Free                                                                              | Free                                                                              |                                                                                   | Stop                                                                              |                                                                                   |

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 32.4%

ICU Level of Service A

Analysis Period (min) 15



HCM 6th TWSC  
9: Lakeshore Road & Mudd Mill Road

07/05/2022

Intersection

Int Delay, s/veh 3.2

| Movement                 | EBL  | EBT                                                                               | WBT                                                                               | WBR  | SBL                                                                               | SBR  |
|--------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|------|
| Lane Configurations      |      |  |  |      |  |      |
| Traffic Vol, veh/h       | 16   | 98                                                                                | 180                                                                               | 73   | 89                                                                                | 34   |
| Future Vol, veh/h        | 16   | 98                                                                                | 180                                                                               | 73   | 89                                                                                | 34   |
| Conflicting Peds, #/hr   | 0    | 0                                                                                 | 0                                                                                 | 0    | 0                                                                                 | 0    |
| Sign Control             | Free | Free                                                                              | Free                                                                              | Free | Stop                                                                              | Stop |
| RT Channelized           | -    | None                                                                              | -                                                                                 | None | -                                                                                 | None |
| Storage Length           | -    | -                                                                                 | -                                                                                 | -    | 0                                                                                 | -    |
| Veh in Median Storage, # | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Grade, %                 | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Peak Hour Factor         | 87   | 87                                                                                | 85                                                                                | 85   | 91                                                                                | 91   |
| Heavy Vehicles, %        | 4    | 4                                                                                 | 6                                                                                 | 6    | 5                                                                                 | 5    |
| Mvmt Flow                | 18   | 113                                                                               | 212                                                                               | 86   | 98                                                                                | 37   |

| Major/Minor          | Major1 | Major2 | Minor2        |
|----------------------|--------|--------|---------------|
| Conflicting Flow All | 298    | 0      | 0 404 255     |
| Stage 1              | -      | -      | - 255 -       |
| Stage 2              | -      | -      | - 149 -       |
| Critical Hdwy        | 4.14   | -      | - 6.45 6.25   |
| Critical Hdwy Stg 1  | -      | -      | - 5.45 -      |
| Critical Hdwy Stg 2  | -      | -      | - 5.45 -      |
| Follow-up Hdwy       | 2.236  | -      | - 3.545 3.345 |
| Pot Cap-1 Maneuver   | 1252   | -      | - 597 776     |
| Stage 1              | -      | -      | - 781 -       |
| Stage 2              | -      | -      | - 871 -       |
| Platoon blocked, %   |        | -      | -             |
| Mov Cap-1 Maneuver   | 1252   | -      | - 588 776     |
| Mov Cap-2 Maneuver   | -      | -      | - 588 -       |
| Stage 1              | -      | -      | - 769 -       |
| Stage 2              | -      | -      | - 871 -       |

| Approach             | EB  | WB | SB   |
|----------------------|-----|----|------|
| HCM Control Delay, s | 1.1 | 0  | 12.3 |
| HCM LOS              |     |    | B    |

| Minor Lane/Major Mvmt | EBL   | EBT | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-----|-------|
| Capacity (veh/h)      | 1252  | -   | -   | -   | 630   |
| HCM Lane V/C Ratio    | 0.015 | -   | -   | -   | 0.215 |
| HCM Control Delay (s) | 7.9   | 0   | -   | -   | 12.3  |
| HCM Lane LOS          | A     | A   | -   | -   | B     |
| HCM 95th %tile Q(veh) | 0     | -   | -   | -   | 0.8   |



# Lanes, Volumes, Timings

## 10: South Bay Road & Lakeshore Road

07/05/2022

|                            |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                 | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations        |  |                                                                                   |                                                                                   |  |  |                                                                                   |
| Traffic Volume (vph)       | 116                                                                               | 3                                                                                 | 88                                                                                | 80                                                                                | 3                                                                                 | 83                                                                                |
| Future Volume (vph)        | 116                                                                               | 3                                                                                 | 88                                                                                | 80                                                                                | 3                                                                                 | 83                                                                                |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Satd. Flow (prot)          | 1802                                                                              | 0                                                                                 | 0                                                                                 | 1779                                                                              | 1569                                                                              | 0                                                                                 |
| Flt Permitted              |                                                                                   |                                                                                   |                                                                                   | 0.974                                                                             | 0.998                                                                             |                                                                                   |
| Satd. Flow (perm)          | 1802                                                                              | 0                                                                                 | 0                                                                                 | 1779                                                                              | 1569                                                                              | 0                                                                                 |
| Link Speed (mph)           | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                | 45                                                                                |                                                                                   |
| Link Distance (ft)         | 538                                                                               |                                                                                   |                                                                                   | 300                                                                               | 501                                                                               |                                                                                   |
| Travel Time (s)            | 10.5                                                                              |                                                                                   |                                                                                   | 5.8                                                                               | 7.6                                                                               |                                                                                   |
| Confl. Peds. (#/hr)        |                                                                                   | 1                                                                                 | 1                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Peak Hour Factor           | 0.78                                                                              | 0.78                                                                              | 0.84                                                                              | 0.84                                                                              | 0.92                                                                              | 0.92                                                                              |
| Heavy Vehicles (%)         | 5%                                                                                | 5%                                                                                | 4%                                                                                | 4%                                                                                | 5%                                                                                | 5%                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)      | 153                                                                               | 0                                                                                 | 0                                                                                 | 200                                                                               | 93                                                                                | 0                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment             | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Left                                                                              | Right                                                                             |
| Median Width(ft)           | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 | 12                                                                                |                                                                                   |
| Link Offset(ft)            | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |
| Crosswalk Width(ft)        | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                | 16                                                                                |                                                                                   |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (mph)        |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 15                                                                                | 9                                                                                 |
| Sign Control               | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              | Stop                                                                              |                                                                                   |

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 27.7%

ICU Level of Service A

Analysis Period (min) 15



HCM 6th TWSC  
10: South Bay Road & Lakeshore Road

07/05/2022

Intersection

| Int Delay, s/veh         | 3.9                                                                               |      |      |                                                                                   |                                                                                   |      |
|--------------------------|-----------------------------------------------------------------------------------|------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|
| Movement                 | EBT                                                                               | EBR  | WBL  | WBT                                                                               | NBL                                                                               | NBR  |
| Lane Configurations      |  |      |      |  |  |      |
| Traffic Vol, veh/h       | 116                                                                               | 3    | 88   | 80                                                                                | 3                                                                                 | 83   |
| Future Vol, veh/h        | 116                                                                               | 3    | 88   | 80                                                                                | 3                                                                                 | 83   |
| Conflicting Peds, #/hr   | 0                                                                                 | 1    | 1    | 0                                                                                 | 0                                                                                 | 0    |
| Sign Control             | Free                                                                              | Free | Free | Free                                                                              | Stop                                                                              | Stop |
| RT Channelized           | -                                                                                 | None | -    | None                                                                              | -                                                                                 | None |
| Storage Length           | -                                                                                 | -    | -    | -                                                                                 | 0                                                                                 | -    |
| Veh in Median Storage, # | 0                                                                                 | -    | -    | 0                                                                                 | 0                                                                                 | -    |
| Grade, %                 | 0                                                                                 | -    | -    | 0                                                                                 | 0                                                                                 | -    |
| Peak Hour Factor         | 78                                                                                | 78   | 84   | 84                                                                                | 92                                                                                | 92   |
| Heavy Vehicles, %        | 5                                                                                 | 5    | 4    | 4                                                                                 | 5                                                                                 | 5    |
| Mvmt Flow                | 149                                                                               | 4    | 105  | 95                                                                                | 3                                                                                 | 90   |

| Major/Minor          | Major1 | Major2 | Minor1 |
|----------------------|--------|--------|--------|
| Conflicting Flow All | 0      | 0      | 154    |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |
| Critical Hdwy        | -      | -      | 4.14   |
| Critical Hdwy Stg 1  | -      | -      | -      |
| Critical Hdwy Stg 2  | -      | -      | -      |
| Follow-up Hdwy       | -      | -      | 2.236  |
| Pot Cap-1 Maneuver   | -      | -      | 1414   |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |
| Platoon blocked, %   | -      | -      | -      |
| Mov Cap-1 Maneuver   | -      | -      | 1413   |
| Mov Cap-2 Maneuver   | -      | -      | -      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |

| Approach             | EB | WB  | NB  |
|----------------------|----|-----|-----|
| HCM Control Delay, s | 0  | 4.1 | 9.7 |
| HCM LOS              |    |     | A   |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL   | WBT |
|-----------------------|-------|-----|-----|-------|-----|
| Capacity (veh/h)      | 863   | -   | -   | 1413  | -   |
| HCM Lane V/C Ratio    | 0.108 | -   | -   | 0.074 | -   |
| HCM Control Delay (s) | 9.7   | -   | -   | 7.8   | 0   |
| HCM Lane LOS          | A     | -   | -   | A     | A   |
| HCM 95th %tile Q(veh) | 0.4   | -   | -   | 0.2   | -   |



# Lanes, Volumes, Timings

## 11: Cicero Center Road/Van Antwerp Drive & Lakeshore Road

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (vph)       | 2                                                                                 | 168                                                                               | 29                                                                                | 9                                                                                 | 150                                                                               | 0                                                                                 | 15                                                                                | 0                                                                                   | 14                                                                                  | 1                                                                                   | 0                                                                                   | 3                                                                                   |
| Future Volume (vph)        | 2                                                                                 | 168                                                                               | 29                                                                                | 9                                                                                 | 150                                                                               | 0                                                                                 | 15                                                                                | 0                                                                                   | 14                                                                                  | 1                                                                                   | 0                                                                                   | 3                                                                                   |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Satd. Flow (prot)          | 0                                                                                 | 1825                                                                              | 0                                                                                 | 0                                                                                 | 1857                                                                              | 0                                                                                 | 0                                                                                 | 1698                                                                                | 0                                                                                   | 0                                                                                   | 1660                                                                                | 0                                                                                   |
| Flt Permitted              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.997                                                                             |                                                                                   |                                                                                   | 0.975                                                                               |                                                                                     |                                                                                     | 0.986                                                                               |                                                                                     |
| Satd. Flow (perm)          | 0                                                                                 | 1825                                                                              | 0                                                                                 | 0                                                                                 | 1857                                                                              | 0                                                                                 | 0                                                                                 | 1698                                                                                | 0                                                                                   | 0                                                                                   | 1660                                                                                | 0                                                                                   |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 55                                                                                  |                                                                                     |                                                                                     | 30                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 557                                                                               |                                                                                   |                                                                                   | 543                                                                               |                                                                                   |                                                                                   | 388                                                                                 |                                                                                     |                                                                                     | 295                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 10.9                                                                              |                                                                                   |                                                                                   | 10.6                                                                              |                                                                                   |                                                                                   | 4.8                                                                                 |                                                                                     |                                                                                     | 6.7                                                                                 |                                                                                     |
| Confl. Peds. (#/hr)        | 1                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1                                                                                 | 2                                                                                 |                                                                                     | 1                                                                                   | 1                                                                                   |                                                                                     | 2                                                                                   |
| Peak Hour Factor           | 0.83                                                                              | 0.83                                                                              | 0.83                                                                              | 0.79                                                                              | 0.79                                                                              | 0.79                                                                              | 0.55                                                                              | 0.55                                                                                | 0.55                                                                                | 0.63                                                                                | 0.63                                                                                | 0.63                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 0                                                                                 | 239                                                                               | 0                                                                                 | 0                                                                                 | 201                                                                               | 0                                                                                 | 0                                                                                 | 52                                                                                  | 0                                                                                   | 0                                                                                   | 7                                                                                   | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Sign Control               |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Stop                                                                                |                                                                                     |                                                                                     | Stop                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 24.3%

ICU Level of Service A

Analysis Period (min) 15



|                          |        |       |        |       |       |        |       |       |        |       |       |       |
|--------------------------|--------|-------|--------|-------|-------|--------|-------|-------|--------|-------|-------|-------|
| Intersection             |        |       |        |       |       |        |       |       |        |       |       |       |
| Int Delay, s/veh         | 1.5    |       |        |       |       |        |       |       |        |       |       |       |
| Movement                 | EBL    | EBT   | EBR    | WBL   | WBT   | WBR    | NBL   | NBT   | NBR    | SBL   | SBT   | SBR   |
| Lane Configurations      |        | ↔     |        |       | ↔     |        |       | ↔     |        |       | ↔     |       |
| Traffic Vol, veh/h       | 2      | 168   | 29     | 9     | 150   | 0      | 15    | 0     | 14     | 1     | 0     | 3     |
| Future Vol, veh/h        | 2      | 168   | 29     | 9     | 150   | 0      | 15    | 0     | 14     | 1     | 0     | 3     |
| Conflicting Peds, #/hr   | 1      | 0     | 0      | 0     | 0     | 1      | 2     | 0     | 1      | 1     | 0     | 2     |
| Sign Control             | Free   | Free  | Free   | Free  | Free  | Free   | Stop  | Stop  | Stop   | Stop  | Stop  | Stop  |
| RT Channelized           | -      | -     | None   | -     | -     | None   | -     | -     | None   | -     | -     | None  |
| Storage Length           | -      | -     | -      | -     | -     | -      | -     | -     | -      | -     | -     | -     |
| Veh in Median Storage, # | -      | 0     | -      | -     | 0     | -      | -     | 0     | -      | -     | 0     | -     |
| Grade, %                 | -      | 0     | -      | -     | 0     | -      | -     | 0     | -      | -     | 0     | -     |
| Peak Hour Factor         | 83     | 83    | 83     | 79    | 79    | 79     | 55    | 55    | 55     | 63    | 63    | 63    |
| Heavy Vehicles, %        | 2      | 2     | 2      | 2     | 2     | 2      | 2     | 2     | 2      | 2     | 2     | 2     |
| Mvmt Flow                | 2      | 202   | 35     | 11    | 190   | 0      | 27    | 0     | 25     | 2     | 0     | 5     |
|                          |        |       |        |       |       |        |       |       |        |       |       |       |
| Major/Minor              | Major1 |       | Major2 |       |       | Minor1 |       |       | Minor2 |       |       |       |
| Conflicting Flow All     | 191    | 0     | 0      | 237   | 0     | 0      | 441   | 437   | 221    | 450   | 454   | 193   |
| Stage 1                  | -      | -     | -      | -     | -     | -      | 224   | 224   | -      | 213   | 213   | -     |
| Stage 2                  | -      | -     | -      | -     | -     | -      | 217   | 213   | -      | 237   | 241   | -     |
| Critical Hdwy            | 4.12   | -     | -      | 4.12  | -     | -      | 7.12  | 6.52  | 6.22   | 7.12  | 6.52  | 6.22  |
| Critical Hdwy Stg 1      | -      | -     | -      | -     | -     | -      | 6.12  | 5.52  | -      | 6.12  | 5.52  | -     |
| Critical Hdwy Stg 2      | -      | -     | -      | -     | -     | -      | 6.12  | 5.52  | -      | 6.12  | 5.52  | -     |
| Follow-up Hdwy           | 2.218  | -     | -      | 2.218 | -     | -      | 3.518 | 4.018 | 3.318  | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver       | 1383   | -     | -      | 1330  | -     | -      | 527   | 513   | 819    | 519   | 502   | 849   |
| Stage 1                  | -      | -     | -      | -     | -     | -      | 779   | 718   | -      | 789   | 726   | -     |
| Stage 2                  | -      | -     | -      | -     | -     | -      | 785   | 726   | -      | 766   | 706   | -     |
| Platoon blocked, %       |        | -     | -      |       | -     | -      |       |       |        |       |       |       |
| Mov Cap-1 Maneuver       | 1382   | -     | -      | 1330  | -     | -      | 519   | 507   | 818    | 498   | 496   | 847   |
| Mov Cap-2 Maneuver       | -      | -     | -      | -     | -     | -      | 519   | 507   | -      | 498   | 496   | -     |
| Stage 1                  | -      | -     | -      | -     | -     | -      | 777   | 717   | -      | 787   | 719   | -     |
| Stage 2                  | -      | -     | -      | -     | -     | -      | 772   | 719   | -      | 740   | 705   | -     |
|                          |        |       |        |       |       |        |       |       |        |       |       |       |
| Approach                 | EB     |       | WB     |       |       | NB     |       |       | SB     |       |       |       |
| HCM Control Delay, s     | 0.1    |       | 0.4    |       |       | 11.2   |       |       | 10     |       |       |       |
| HCM LOS                  |        |       |        |       |       | B      |       |       | B      |       |       |       |
|                          |        |       |        |       |       |        |       |       |        |       |       |       |
| Minor Lane/Major Mvmt    | NBLn1  | EBL   | EBT    | EBR   | WBL   | WBT    | WBR   | SBLn1 |        |       |       |       |
| Capacity (veh/h)         | 630    | 1382  | -      | -     | 1330  | -      | -     | 721   |        |       |       |       |
| HCM Lane V/C Ratio       | 0.084  | 0.002 | -      | -     | 0.009 | -      | -     | 0.009 |        |       |       |       |
| HCM Control Delay (s)    | 11.2   | 7.6   | 0      | -     | 7.7   | 0      | -     | 10    |        |       |       |       |
| HCM Lane LOS             | B      | A     | A      | -     | A     | A      | -     | B     |        |       |       |       |
| HCM 95th %tile Q(veh)    | 0.3    | 0     | -      | -     | 0     | -      | -     | 0     |        |       |       |       |



# Lanes, Volumes, Timings

## 1: Route 11 & Route 31

07/05/2022

|                            |  |  |  |  |  |  |   |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |  |  |                                                                                   |  |  |                                                                                   |  |  |  |  |  |                                                                                     |
| Traffic Volume (vph)       | 66                                                                                | 534                                                                               | 111                                                                               | 479                                                                               | 628                                                                               | 137                                                                               | 137                                                                                | 328                                                                                 | 591                                                                                 | 215                                                                                 | 198                                                                                 | 95                                                                                  |
| Future Volume (vph)        | 66                                                                                | 534                                                                               | 111                                                                               | 479                                                                               | 628                                                                               | 137                                                                               | 137                                                                                | 328                                                                                 | 591                                                                                 | 215                                                                                 | 198                                                                                 | 95                                                                                  |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                               | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 200                                                                               |                                                                                   | 310                                                                               | 495                                                                               |                                                                                   | 0                                                                                 | 175                                                                                |                                                                                     | 0                                                                                   | 350                                                                                 |                                                                                     | 0                                                                                   |
| Storage Lanes              | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                  |                                                                                     | 1                                                                                   | 1                                                                                   |                                                                                     | 0                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                 |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 1787                                                                              | 3481                                                                              | 0                                                                                 | 1787                                                                              | 3478                                                                              | 0                                                                                 | 1787                                                                               | 1881                                                                                | 1599                                                                                | 1770                                                                                | 3366                                                                                | 0                                                                                   |
| Flt Permitted              | 0.316                                                                             |                                                                                   |                                                                                   | 0.129                                                                             |                                                                                   |                                                                                   | 0.488                                                                              |                                                                                     |                                                                                     | 0.176                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)          | 594                                                                               | 3481                                                                              | 0                                                                                 | 243                                                                               | 3478                                                                              | 0                                                                                 | 918                                                                                | 1881                                                                                | 1579                                                                                | 328                                                                                 | 3366                                                                                | 0                                                                                   |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                    |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   | 17                                                                                |                                                                                   |                                                                                   | 17                                                                                |                                                                                   |                                                                                    |                                                                                     | 70                                                                                  |                                                                                     | 54                                                                                  |                                                                                     |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                    | 35                                                                                  |                                                                                     |                                                                                     | 35                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 385                                                                               |                                                                                   |                                                                                   | 703                                                                               |                                                                                   |                                                                                    | 612                                                                                 |                                                                                     |                                                                                     | 561                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 7.5                                                                               |                                                                                   |                                                                                   | 13.7                                                                              |                                                                                   |                                                                                    | 11.9                                                                                |                                                                                     |                                                                                     | 10.9                                                                                |                                                                                     |
| Confl. Peds. (#/hr)        |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     | 1                                                                                   | 1                                                                                   |                                                                                     |                                                                                     |
| Peak Hour Factor           | 0.95                                                                              | 0.95                                                                              | 0.95                                                                              | 0.85                                                                              | 0.85                                                                              | 0.85                                                                              | 0.95                                                                               | 0.95                                                                                | 0.95                                                                                | 0.86                                                                                | 0.86                                                                                | 0.86                                                                                |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                 | 1%                                                                                  | 1%                                                                                  | 2%                                                                                  | 2%                                                                                  | 2%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 69                                                                                | 679                                                                               | 0                                                                                 | 564                                                                               | 900                                                                               | 0                                                                                 | 144                                                                                | 345                                                                                 | 622                                                                                 | 250                                                                                 | 340                                                                                 | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                 | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                               | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                    | 12                                                                                  |                                                                                     |                                                                                     | 12                                                                                  |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                    | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                    | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                 |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                              | NA                                                                                  | pm+ov                                                                               | pm+pt                                                                               | NA                                                                                  |                                                                                     |
| Protected Phases           | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 3                                                                                  | 8                                                                                   | 1                                                                                   | 7                                                                                   | 4                                                                                   |                                                                                     |
| Permitted Phases           | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                  |                                                                                     | 8                                                                                   | 4                                                                                   |                                                                                     |                                                                                     |
| Detector Phase             | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 3                                                                                  | 8                                                                                   | 1                                                                                   | 7                                                                                   | 4                                                                                   |                                                                                     |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 4.0                                                                               | 12.0                                                                              |                                                                                   | 8.0                                                                               | 12.0                                                                              |                                                                                   | 4.0                                                                                | 8.0                                                                                 | 8.0                                                                                 | 4.0                                                                                 | 8.0                                                                                 |                                                                                     |
| Minimum Split (s)          | 9.5                                                                               | 18.0                                                                              |                                                                                   | 13.5                                                                              | 18.0                                                                              |                                                                                   | 10.0                                                                               | 14.0                                                                                | 13.5                                                                                | 9.5                                                                                 | 14.0                                                                                |                                                                                     |
| Total Split (s)            | 40.0                                                                              | 40.0                                                                              |                                                                                   | 40.0                                                                              | 40.0                                                                              |                                                                                   | 20.0                                                                               | 40.0                                                                                | 40.0                                                                                | 20.0                                                                                | 40.0                                                                                |                                                                                     |
| Total Split (%)            | 28.6%                                                                             | 28.6%                                                                             |                                                                                   | 28.6%                                                                             | 28.6%                                                                             |                                                                                   | 14.3%                                                                              | 28.6%                                                                               | 28.6%                                                                               | 14.3%                                                                               | 28.6%                                                                               |                                                                                     |
| Maximum Green (s)          | 34.5                                                                              | 34.0                                                                              |                                                                                   | 34.5                                                                              | 34.0                                                                              |                                                                                   | 14.0                                                                               | 34.0                                                                                | 34.5                                                                                | 14.5                                                                                | 34.0                                                                                |                                                                                     |
| Yellow Time (s)            | 3.5                                                                               | 3.5                                                                               |                                                                                   | 3.5                                                                               | 3.5                                                                               |                                                                                   | 3.5                                                                                | 3.5                                                                                 | 3.5                                                                                 | 3.0                                                                                 | 3.5                                                                                 |                                                                                     |
| All-Red Time (s)           | 2.0                                                                               | 2.5                                                                               |                                                                                   | 2.0                                                                               | 2.5                                                                               |                                                                                   | 2.5                                                                                | 2.5                                                                                 | 2.0                                                                                 | 2.5                                                                                 | 2.5                                                                                 |                                                                                     |
| Lost Time Adjust (s)       | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                                | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)        | 5.5                                                                               | 6.0                                                                               |                                                                                   | 5.5                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                                | 6.0                                                                                 | 5.5                                                                                 | 5.5                                                                                 | 6.0                                                                                 |                                                                                     |
| Lead/Lag                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                               | Lag                                                                                 | Lead                                                                                | Lead                                                                                | Lag                                                                                 |                                                                                     |
| Lead-Lag Optimize?         | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                                | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 |                                                                                     |
| Vehicle Extension (s)      | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                                | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |
| Recall Mode                | None                                                                              | Min                                                                               |                                                                                   | None                                                                              | Min                                                                               |                                                                                   | None                                                                               | None                                                                                | None                                                                                | None                                                                                | None                                                                                |                                                                                     |
| Act Effect Green (s)       | 38.1                                                                              | 29.4                                                                              |                                                                                   | 70.2                                                                              | 58.6                                                                              |                                                                                   | 40.0                                                                               | 28.0                                                                                | 63.3                                                                                | 45.2                                                                                | 30.1                                                                                |                                                                                     |
| Actuated g/C Ratio         | 0.29                                                                              | 0.23                                                                              |                                                                                   | 0.54                                                                              | 0.45                                                                              |                                                                                   | 0.31                                                                               | 0.22                                                                                | 0.49                                                                                | 0.35                                                                                | 0.23                                                                                |                                                                                     |
| v/c Ratio                  | 0.28                                                                              | 0.85                                                                              |                                                                                   | 1.04                                                                              | 0.57                                                                              |                                                                                   | 0.40                                                                               | 0.85                                                                                | 0.77                                                                                | 0.91                                                                                | 0.41                                                                                |                                                                                     |



# Lanes, Volumes, Timings

## 1: Route 11 & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Control Delay           | 22.3                                                                              | 58.3                                                                              |                                                                                   | 84.8                                                                              | 29.2                                                                              |                                                                                   | 32.1                                                                              | 69.2                                                                                | 29.2                                                                                | 67.6                                                                                | 37.6                                                                                |                                                                                     |
| Queue Delay             | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Delay             | 22.3                                                                              | 58.3                                                                              |                                                                                   | 84.8                                                                              | 29.2                                                                              |                                                                                   | 32.1                                                                              | 69.2                                                                                | 29.2                                                                                | 67.6                                                                                | 37.6                                                                                |                                                                                     |
| LOS                     | C                                                                                 | E                                                                                 |                                                                                   | F                                                                                 | C                                                                                 |                                                                                   | C                                                                                 | E                                                                                   | C                                                                                   | E                                                                                   | D                                                                                   |                                                                                     |
| Approach Delay          |                                                                                   | 55.0                                                                              |                                                                                   |                                                                                   | 50.6                                                                              |                                                                                   |                                                                                   | 42.0                                                                                |                                                                                     |                                                                                     | 50.3                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | D                                                                                   |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 28                                                                                | 287                                                                               |                                                                                   | ~472                                                                              | 301                                                                               |                                                                                   | 84                                                                                | 286                                                                                 | 352                                                                                 | 155                                                                                 | 110                                                                                 |                                                                                     |
| Queue Length 95th (ft)  | 55                                                                                | 374                                                                               |                                                                                   | #679                                                                              | 372                                                                               |                                                                                   | 139                                                                               | 411                                                                                 | 520                                                                                 | #295                                                                                | 153                                                                                 |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 305                                                                               |                                                                                   |                                                                                   | 623                                                                               |                                                                                   |                                                                                   | 532                                                                                 |                                                                                     |                                                                                     | 481                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 200                                                                               |                                                                                   |                                                                                   | 495                                                                               |                                                                                   |                                                                                   | 175                                                                               |                                                                                     |                                                                                     | 350                                                                                 |                                                                                     |                                                                                     |
| Base Capacity (vph)     | 614                                                                               | 929                                                                               |                                                                                   | 543                                                                               | 1577                                                                              |                                                                                   | 391                                                                               | 495                                                                                 | 810                                                                                 | 276                                                                                 | 926                                                                                 |                                                                                     |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       | 0.11                                                                              | 0.73                                                                              |                                                                                   | 1.04                                                                              | 0.57                                                                              |                                                                                   | 0.37                                                                              | 0.70                                                                                | 0.77                                                                                | 0.91                                                                                | 0.37                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 129.9

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.04

Intersection Signal Delay: 49.0

Intersection LOS: D

Intersection Capacity Utilization 93.2%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

### Splits and Phases: 1: Route 11 & Route 31

|                                                                                        |                                                                                        |                                                                                        |                                                                                          |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
|  Ø1 |  Ø2 |  Ø3 |  Ø4 |
| 40 s                                                                                   | 40 s                                                                                   | 20 s                                                                                   | 40 s                                                                                     |
|  Ø5 |  Ø6 |  Ø7 |  Ø8 |
| 40 s                                                                                   | 40 s                                                                                   | 20 s                                                                                   | 40 s                                                                                     |



# Lanes, Volumes, Timings

## 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |                                                                                   |  |                                                                                   |  |  |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |  |  |
| Traffic Volume (vph)       | 0                                                                                 | 1064                                                                              | 276                                                                               | 395                                                                               | 1107                                                                              | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 150                                                                                 | 6                                                                                   | 137                                                                                 |
| Future Volume (vph)        | 0                                                                                 | 1064                                                                              | 276                                                                               | 395                                                                               | 1107                                                                              | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 150                                                                                 | 6                                                                                   | 137                                                                                 |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 0                                                                                 |                                                                                   | 0                                                                                 | 150                                                                               |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     | 125                                                                                 |
| Storage Lanes              | 0                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     | 1                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 0                                                                                 | 3415                                                                              | 0                                                                                 | 1787                                                                              | 3574                                                                              | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 1760                                                                                | 1568                                                                                |
| Flt Permitted              |                                                                                   |                                                                                   |                                                                                   | 0.069                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 0.954                                                                               |                                                                                     |
| Satd. Flow (perm)          | 0                                                                                 | 3415                                                                              | 0                                                                                 | 130                                                                               | 3574                                                                              | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 1760                                                                                | 1568                                                                                |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   | 36                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 156                                                                                 |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 40                                                                                  |                                                                                     |                                                                                     | 40                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 703                                                                               |                                                                                   |                                                                                   | 360                                                                               |                                                                                   |                                                                                   | 622                                                                                 |                                                                                     |                                                                                     | 505                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 13.7                                                                              |                                                                                   |                                                                                   | 7.0                                                                               |                                                                                   |                                                                                   | 10.6                                                                                |                                                                                     |                                                                                     | 8.6                                                                                 |                                                                                     |
| Confl. Peds. (#/hr)        | 1                                                                                 |                                                                                   | 1                                                                                 | 1                                                                                 |                                                                                   | 1                                                                                 |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Peak Hour Factor           | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.96                                                                              | 0.96                                                                              | 0.96                                                                              | 0.90                                                                              | 0.90                                                                                | 0.90                                                                                | 0.84                                                                                | 0.84                                                                                | 0.84                                                                                |
| Heavy Vehicles (%)         | 2%                                                                                | 2%                                                                                | 2%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                  | 1%                                                                                  | 3%                                                                                  | 3%                                                                                  | 3%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 0                                                                                 | 1441                                                                              | 0                                                                                 | 411                                                                               | 1153                                                                              | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 186                                                                                 | 163                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  |                                                                                   | NA                                                                                |                                                                                   | pm+pt                                                                             | NA                                                                                |                                                                                   |                                                                                   |                                                                                     |                                                                                     | Perm                                                                                | NA                                                                                  | Perm                                                                                |
| Protected Phases           |                                                                                   | 2                                                                                 |                                                                                   | 1 3                                                                               | 6                                                                                 |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |
| Permitted Phases           |                                                                                   |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     | 4                                                                                   |
| Detector Phase             |                                                                                   | 2                                                                                 |                                                                                   | 1 3                                                                               | 6                                                                                 |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 4                                                                                   | 4                                                                                   | 4                                                                                   |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        |                                                                                   | 12.0                                                                              |                                                                                   |                                                                                   | 12.0                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 |
| Minimum Split (s)          |                                                                                   | 17.0                                                                              |                                                                                   |                                                                                   | 17.0                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 9.0                                                                                 | 9.0                                                                                 | 9.0                                                                                 |
| Total Split (s)            |                                                                                   | 50.0                                                                              |                                                                                   |                                                                                   | 91.0                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 19.0                                                                                | 19.0                                                                                | 19.0                                                                                |
| Total Split (%)            |                                                                                   | 45.5%                                                                             |                                                                                   |                                                                                   | 82.7%                                                                             |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 17.3%                                                                               | 17.3%                                                                               | 17.3%                                                                               |
| Maximum Green (s)          |                                                                                   | 45.0                                                                              |                                                                                   |                                                                                   | 86.0                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 14.0                                                                                | 14.0                                                                                | 14.0                                                                                |
| Yellow Time (s)            |                                                                                   | 3.5                                                                               |                                                                                   |                                                                                   | 3.5                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 |
| All-Red Time (s)           |                                                                                   | 1.5                                                                               |                                                                                   |                                                                                   | 1.5                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 1.0                                                                                 | 1.0                                                                                 | 1.0                                                                                 |
| Lost Time Adjust (s)       |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Total Lost Time (s)        |                                                                                   | 5.0                                                                               |                                                                                   |                                                                                   | 5.0                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 |
| Lead/Lag                   |                                                                                   | Lag                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?         |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Vehicle Extension (s)      |                                                                                   | 3.0                                                                               |                                                                                   |                                                                                   | 3.0                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |
| Recall Mode                |                                                                                   | C-Min                                                                             |                                                                                   |                                                                                   | C-Min                                                                             |                                                                                   |                                                                                   |                                                                                     |                                                                                     | None                                                                                | None                                                                                | None                                                                                |
| Act Effect Green (s)       |                                                                                   | 47.9                                                                              |                                                                                   | 84.9                                                                              | 84.9                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 15.1                                                                                | 15.1                                                                                |
| Actuated g/C Ratio         |                                                                                   | 0.44                                                                              |                                                                                   | 0.77                                                                              | 0.77                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 0.14                                                                                | 0.14                                                                                |
| v/c Ratio                  |                                                                                   | 0.96                                                                              |                                                                                   | 0.81                                                                              | 0.42                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 0.77                                                                                | 0.47                                                                                |



# Lanes, Volumes, Timings

## 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

07/05/2022

| Lane Group                 | Ø1   | Ø3   |
|----------------------------|------|------|
| Lane Configurations        |      |      |
| Traffic Volume (vph)       |      |      |
| Future Volume (vph)        |      |      |
| Ideal Flow (vphpl)         |      |      |
| Storage Length (ft)        |      |      |
| Storage Lanes              |      |      |
| Taper Length (ft)          |      |      |
| Satd. Flow (prot)          |      |      |
| Flt Permitted              |      |      |
| Satd. Flow (perm)          |      |      |
| Right Turn on Red          |      |      |
| Satd. Flow (RTOR)          |      |      |
| Link Speed (mph)           |      |      |
| Link Distance (ft)         |      |      |
| Travel Time (s)            |      |      |
| Confl. Peds. (#/hr)        |      |      |
| Peak Hour Factor           |      |      |
| Heavy Vehicles (%)         |      |      |
| Shared Lane Traffic (%)    |      |      |
| Lane Group Flow (vph)      |      |      |
| Enter Blocked Intersection |      |      |
| Lane Alignment             |      |      |
| Median Width(ft)           |      |      |
| Link Offset(ft)            |      |      |
| Crosswalk Width(ft)        |      |      |
| Two way Left Turn Lane     |      |      |
| Headway Factor             |      |      |
| Turning Speed (mph)        |      |      |
| Turn Type                  |      |      |
| Protected Phases           | 1    | 3    |
| Permitted Phases           |      |      |
| Detector Phase             |      |      |
| Switch Phase               |      |      |
| Minimum Initial (s)        | 4.0  | 4.0  |
| Minimum Split (s)          | 9.0  | 9.0  |
| Total Split (s)            | 13.0 | 28.0 |
| Total Split (%)            | 12%  | 25%  |
| Maximum Green (s)          | 8.0  | 23.0 |
| Yellow Time (s)            | 3.5  | 3.5  |
| All-Red Time (s)           | 1.5  | 1.5  |
| Lost Time Adjust (s)       |      |      |
| Total Lost Time (s)        |      |      |
| Lead/Lag                   | Lead |      |
| Lead-Lag Optimize?         | Yes  |      |
| Vehicle Extension (s)      | 3.0  | 3.0  |
| Recall Mode                | None | None |
| Act Effect Green (s)       |      |      |
| Actuated g/C Ratio         |      |      |
| v/c Ratio                  |      |      |



# Lanes, Volumes, Timings

## 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Control Delay           |                                                                                   | 45.4                                                                              |                                                                                   | 29.8                                                                              | 0.9                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 67.5                                                                                | 12.7                                                                                |
| Queue Delay             |                                                                                   | 26.1                                                                              |                                                                                   | 56.2                                                                              | 1.1                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 62.2                                                                                | 0.0                                                                                 |
| Total Delay             |                                                                                   | 71.5                                                                              |                                                                                   | 86.0                                                                              | 2.0                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 129.7                                                                               | 12.7                                                                                |
| LOS                     |                                                                                   | E                                                                                 |                                                                                   | F                                                                                 | A                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | F                                                                                   | B                                                                                   |
| Approach Delay          |                                                                                   | 71.5                                                                              |                                                                                   |                                                                                   | 24.1                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 75.1                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | E                                                                                 |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | E                                                                                   |                                                                                     |
| Queue Length 50th (ft)  |                                                                                   | ~538                                                                              |                                                                                   | 189                                                                               | 23                                                                                |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 124                                                                                 | 4                                                                                   |
| Queue Length 95th (ft)  |                                                                                   | #698                                                                              |                                                                                   | m205                                                                              | m23                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | #224                                                                                | 54                                                                                  |
| Internal Link Dist (ft) |                                                                                   | 623                                                                               |                                                                                   |                                                                                   | 280                                                                               |                                                                                   |                                                                                    | 542                                                                                 |                                                                                     |                                                                                     | 425                                                                                 |                                                                                     |
| Turn Bay Length (ft)    |                                                                                   |                                                                                   |                                                                                   | 150                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 125                                                                                 |
| Base Capacity (vph)     |                                                                                   | 1508                                                                              |                                                                                   | 596                                                                               | 2806                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 247                                                                                 | 354                                                                                 |
| Starvation Cap Reductn  |                                                                                   | 0                                                                                 |                                                                                   | 246                                                                               | 1319                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 0                                                                                   | 0                                                                                   |
| Spillback Cap Reductn   |                                                                                   | 146                                                                               |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 81                                                                                  | 0                                                                                   |
| Storage Cap Reductn     |                                                                                   | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 0                                                                                   | 0                                                                                   |
| Reduced v/c Ratio       |                                                                                   | 1.06                                                                              |                                                                                   | 1.17                                                                              | 0.78                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 1.12                                                                                | 0.46                                                                                |

### Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 8 (7%), Referenced to phase 2:EBT and 6:WBTL, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 49.8

Intersection LOS: D

Intersection Capacity Utilization 81.3%

ICU Level of Service D

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

### Splits and Phases: 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

|                                                                                     |                                                                                     |                                                                                     |                                                                                       |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  |  |  |  |
| Ø1                                                                                  | Ø2 (R)                                                                              | Ø3                                                                                  | Ø4                                                                                    |
| 13 s                                                                                | 50 s                                                                                | 28 s                                                                                | 19 s                                                                                  |
|  |  |  |                                                                                       |
| Ø6 (R)                                                                              |                                                                                     |                                                                                     |                                                                                       |
| 91 s                                                                                |                                                                                     |                                                                                     |                                                                                       |



## Lanes, Volumes, Timings

### 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

07/05/2022

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| Lane Group | Ø1 | Ø3 |
|------------|----|----|
|------------|----|----|

---

Control Delay

Queue Delay

Total Delay

LOS

Approach Delay

Approach LOS

Queue Length 50th (ft)

Queue Length 95th (ft)

Internal Link Dist (ft)

Turn Bay Length (ft)

Base Capacity (vph)

Starvation Cap Reductn

Spillback Cap Reductn

Storage Cap Reductn

Reduced v/c Ratio

Intersection Summary

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# Lanes, Volumes, Timings

## 3: I-81 NB Offramp/Pardee Road & Route 31

07/05/2022

|                            |  |  |  |  |  |  |    |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |  |  |                                                                                   |                                                                                   |  |                                                                                   |  |  |  |                                                                                     |                                                                                     |  |
| Traffic Volume (vph)       | 281                                                                               | 933                                                                               | 0                                                                                 | 0                                                                                 | 1010                                                                              | 280                                                                               | 359                                                                                 | 124                                                                                 | 639                                                                                 | 0                                                                                   | 0                                                                                   | 133                                                                                 |
| Future Volume (vph)        | 281                                                                               | 933                                                                               | 0                                                                                 | 0                                                                                 | 1010                                                                              | 280                                                                               | 359                                                                                 | 124                                                                                 | 639                                                                                 | 0                                                                                   | 0                                                                                   | 133                                                                                 |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 85                                                                                |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 310                                                                                 |                                                                                     | 100                                                                                 | 0                                                                                   |                                                                                     | 0                                                                                   |
| Storage Lanes              | 1                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                   |                                                                                     | 1                                                                                   | 0                                                                                   |                                                                                     | 1                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                  |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 1770                                                                              | 3539                                                                              | 0                                                                                 | 0                                                                                 | 3406                                                                              | 0                                                                                 | 1752                                                                                | 1845                                                                                | 1568                                                                                | 0                                                                                   | 0                                                                                   | 1596                                                                                |
| Flt Permitted              | 0.099                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.950                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Satd. Flow (perm)          | 184                                                                               | 3539                                                                              | 0                                                                                 | 0                                                                                 | 3406                                                                              | 0                                                                                 | 1752                                                                                | 1845                                                                                | 1568                                                                                | 0                                                                                   | 0                                                                                   | 1596                                                                                |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                     |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 31                                                                                |                                                                                   |                                                                                     |                                                                                     | 74                                                                                  |                                                                                     |                                                                                     | 124                                                                                 |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                     | 40                                                                                  |                                                                                     |                                                                                     | 55                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 360                                                                               |                                                                                   |                                                                                   | 1082                                                                              |                                                                                   |                                                                                     | 639                                                                                 |                                                                                     |                                                                                     | 500                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 7.0                                                                               |                                                                                   |                                                                                   | 21.1                                                                              |                                                                                   |                                                                                     | 10.9                                                                                |                                                                                     |                                                                                     | 6.2                                                                                 |                                                                                     |
| Confl. Peds. (#/hr)        | 1                                                                                 |                                                                                   | 2                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Peak Hour Factor           | 0.84                                                                              | 0.84                                                                              | 0.84                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.84                                                                                | 0.84                                                                                | 0.84                                                                                | 0.75                                                                                | 0.75                                                                                | 0.75                                                                                |
| Heavy Vehicles (%)         | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 3%                                                                                  | 3%                                                                                  | 3%                                                                                  | 3%                                                                                  | 3%                                                                                  | 3%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 335                                                                               | 1111                                                                              | 0                                                                                 | 0                                                                                 | 1402                                                                              | 0                                                                                 | 427                                                                                 | 148                                                                                 | 761                                                                                 | 0                                                                                   | 0                                                                                   | 177                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                                | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                     | 12                                                                                  |                                                                                     |                                                                                     | 12                                                                                  |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                     | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                     | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                  |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | pm+pt                                                                             | NA                                                                                |                                                                                   |                                                                                   | NA                                                                                |                                                                                   | Perm                                                                                | NA                                                                                  | Perm                                                                                |                                                                                     |                                                                                     | Over                                                                                |
| Protected Phases           | 5                                                                                 | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                     | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     | 5                                                                                   |
| Permitted Phases           | 2                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 8                                                                                   |                                                                                     | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Detector Phase             | 5                                                                                 | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   | 8                                                                                   | 8                                                                                   | 8                                                                                   |                                                                                     |                                                                                     | 5                                                                                   |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 4.0                                                                               | 12.0                                                                              |                                                                                   |                                                                                   | 12.0                                                                              |                                                                                   | 6.0                                                                                 | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |                                                                                     | 4.0                                                                                 |
| Minimum Split (s)          | 9.0                                                                               | 17.5                                                                              |                                                                                   |                                                                                   | 17.5                                                                              |                                                                                   | 12.0                                                                                | 12.0                                                                                | 12.0                                                                                |                                                                                     |                                                                                     | 9.0                                                                                 |
| Total Split (s)            | 31.0                                                                              | 66.0                                                                              |                                                                                   |                                                                                   | 35.0                                                                              |                                                                                   | 44.0                                                                                | 44.0                                                                                | 44.0                                                                                |                                                                                     |                                                                                     | 31.0                                                                                |
| Total Split (%)            | 28.2%                                                                             | 60.0%                                                                             |                                                                                   |                                                                                   | 31.8%                                                                             |                                                                                   | 40.0%                                                                               | 40.0%                                                                               | 40.0%                                                                               |                                                                                     |                                                                                     | 28.2%                                                                               |
| Maximum Green (s)          | 26.0                                                                              | 60.5                                                                              |                                                                                   |                                                                                   | 29.5                                                                              |                                                                                   | 38.0                                                                                | 38.0                                                                                | 38.0                                                                                |                                                                                     |                                                                                     | 26.0                                                                                |
| Yellow Time (s)            | 3.0                                                                               | 3.5                                                                               |                                                                                   |                                                                                   | 3.5                                                                               |                                                                                   | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 |                                                                                     |                                                                                     | 3.0                                                                                 |
| All-Red Time (s)           | 2.0                                                                               | 2.0                                                                               |                                                                                   |                                                                                   | 2.0                                                                               |                                                                                   | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 |                                                                                     |                                                                                     | 2.0                                                                                 |
| Lost Time Adjust (s)       | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |                                                                                     | 0.0                                                                                 |
| Total Lost Time (s)        | 5.0                                                                               | 5.5                                                                               |                                                                                   |                                                                                   | 5.5                                                                               |                                                                                   | 6.0                                                                                 | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |                                                                                     | 5.0                                                                                 |
| Lead/Lag                   | Lead                                                                              |                                                                                   |                                                                                   |                                                                                   | Lag                                                                               |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | Lead                                                                                |
| Lead-Lag Optimize?         | Yes                                                                               |                                                                                   |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | Yes                                                                                 |
| Vehicle Extension (s)      | 3.0                                                                               | 3.0                                                                               |                                                                                   |                                                                                   | 3.0                                                                               |                                                                                   | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |                                                                                     | 3.0                                                                                 |
| Recall Mode                | None                                                                              | C-Min                                                                             |                                                                                   |                                                                                   | C-Min                                                                             |                                                                                   | None                                                                                | None                                                                                | None                                                                                |                                                                                     |                                                                                     | None                                                                                |
| Act Effct Green (s)        | 61.0                                                                              | 60.5                                                                              |                                                                                   |                                                                                   | 35.3                                                                              |                                                                                   | 38.0                                                                                | 38.0                                                                                | 38.0                                                                                |                                                                                     |                                                                                     | 20.2                                                                                |
| Actuated g/C Ratio         | 0.55                                                                              | 0.55                                                                              |                                                                                   |                                                                                   | 0.32                                                                              |                                                                                   | 0.35                                                                                | 0.35                                                                                | 0.35                                                                                |                                                                                     |                                                                                     | 0.18                                                                                |
| v/c Ratio                  | 0.85                                                                              | 0.57                                                                              |                                                                                   |                                                                                   | 1.26                                                                              |                                                                                   | 0.71                                                                                | 0.23                                                                                | 1.29                                                                                |                                                                                     |                                                                                     | 0.45                                                                                |



# Lanes, Volumes, Timings

## 3: I-81 NB Offramp/Pardee Road & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Control Delay           | 46.0                                                                              | 29.0                                                                              |                                                                                   |                                                                                   | 156.1                                                                             |                                                                                   | 38.7                                                                              | 26.9                                                                                | 172.2                                                                               |                                                                                     |                                                                                     | 16.3                                                                                |
| Queue Delay             | 1.3                                                                               | 44.1                                                                              |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   | 0.6                                                                               | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |                                                                                     | 0.0                                                                                 |
| Total Delay             | 47.3                                                                              | 73.2                                                                              |                                                                                   |                                                                                   | 156.1                                                                             |                                                                                   | 39.4                                                                              | 26.9                                                                                | 172.2                                                                               |                                                                                     |                                                                                     | 16.3                                                                                |
| LOS                     | D                                                                                 | E                                                                                 |                                                                                   |                                                                                   | F                                                                                 |                                                                                   | D                                                                                 | C                                                                                   | F                                                                                   |                                                                                     |                                                                                     | B                                                                                   |
| Approach Delay          |                                                                                   | 67.2                                                                              |                                                                                   |                                                                                   | 156.1                                                                             |                                                                                   |                                                                                   | 113.7                                                                               |                                                                                     |                                                                                     | 16.3                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | E                                                                                 |                                                                                   |                                                                                   | F                                                                                 |                                                                                   |                                                                                   | F                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 204                                                                               | 349                                                                               |                                                                                   |                                                                                   | ~656                                                                              |                                                                                   | 259                                                                               | 74                                                                                  | ~654                                                                                |                                                                                     |                                                                                     | 32                                                                                  |
| Queue Length 95th (ft)  | m224                                                                              | m337                                                                              |                                                                                   |                                                                                   | #861                                                                              |                                                                                   | 341                                                                               | 115                                                                                 | #800                                                                                |                                                                                     |                                                                                     | 60                                                                                  |
| Internal Link Dist (ft) |                                                                                   | 280                                                                               |                                                                                   |                                                                                   | 1002                                                                              |                                                                                   |                                                                                   | 559                                                                                 |                                                                                     |                                                                                     | 420                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 85                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 310                                                                               |                                                                                     | 100                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| Base Capacity (vph)     | 476                                                                               | 1946                                                                              |                                                                                   |                                                                                   | 1115                                                                              |                                                                                   | 605                                                                               | 637                                                                                 | 590                                                                                 |                                                                                     |                                                                                     | 471                                                                                 |
| Starvation Cap Reductn  | 40                                                                                | 923                                                                               |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   | 34                                                                                | 0                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 7                                                                                   |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |
| Reduced v/c Ratio       | 0.77                                                                              | 1.09                                                                              |                                                                                   |                                                                                   | 1.26                                                                              |                                                                                   | 0.75                                                                              | 0.23                                                                                | 1.29                                                                                |                                                                                     |                                                                                     | 0.38                                                                                |

### Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 87 (79%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.29

Intersection Signal Delay: 107.9

Intersection LOS: F

Intersection Capacity Utilization 86.1%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

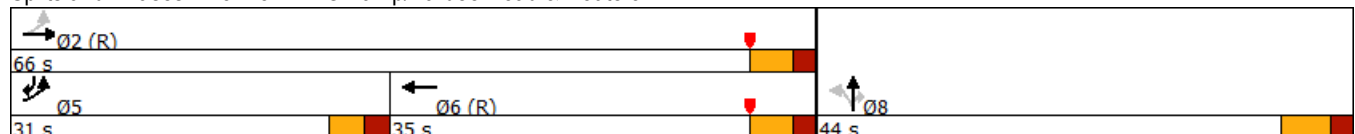
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: I-81 NB Offramp/Pardee Road & Route 31





# Lanes, Volumes, Timings

## 4: Route 31 & Lakeshore Road

07/05/2022

|                            |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | WBT                                                                               | WBR                                                                               | SBL                                                                               | SBR                                                                               |
| Lane Configurations        |  |  |  |                                                                                   |  |                                                                                   |
| Traffic Volume (vph)       | 613                                                                               | 959                                                                               | 882                                                                               | 1                                                                                 | 0                                                                                 | 408                                                                               |
| Future Volume (vph)        | 613                                                                               | 959                                                                               | 882                                                                               | 1                                                                                 | 0                                                                                 | 408                                                                               |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Storage Length (ft)        | 225                                                                               |                                                                                   |                                                                                   | 0                                                                                 | 0                                                                                 | 0                                                                                 |
| Storage Lanes              | 1                                                                                 |                                                                                   |                                                                                   | 0                                                                                 | 1                                                                                 | 0                                                                                 |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |
| Satd. Flow (prot)          | 1787                                                                              | 3574                                                                              | 1863                                                                              | 0                                                                                 | 1611                                                                              | 0                                                                                 |
| Flt Permitted              | 0.950                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Satd. Flow (perm)          | 1787                                                                              | 3574                                                                              | 1863                                                                              | 0                                                                                 | 1611                                                                              | 0                                                                                 |
| Link Speed (mph)           |                                                                                   | 35                                                                                | 35                                                                                |                                                                                   | 35                                                                                |                                                                                   |
| Link Distance (ft)         |                                                                                   | 1082                                                                              | 959                                                                               |                                                                                   | 962                                                                               |                                                                                   |
| Travel Time (s)            |                                                                                   | 21.1                                                                              | 18.7                                                                              |                                                                                   | 18.7                                                                              |                                                                                   |
| Peak Hour Factor           | 0.92                                                                              | 0.92                                                                              | 0.93                                                                              | 0.93                                                                              | 0.91                                                                              | 0.91                                                                              |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)      | 666                                                                               | 1042                                                                              | 949                                                                               | 0                                                                                 | 448                                                                               | 0                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment             | Left                                                                              | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Right                                                                             |
| Median Width(ft)           |                                                                                   | 12                                                                                | 12                                                                                |                                                                                   | 12                                                                                |                                                                                   |
| Link Offset(ft)            |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 |                                                                                   |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                | 16                                                                                |                                                                                   | 16                                                                                |                                                                                   |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (mph)        | 15                                                                                |                                                                                   |                                                                                   | 9                                                                                 | 15                                                                                | 9                                                                                 |
| Sign Control               |                                                                                   | Free                                                                              | Free                                                                              |                                                                                   | Stop                                                                              |                                                                                   |

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 115.7%

ICU Level of Service H

Analysis Period (min) 15



HCM 6th TWSC  
4: Route 31 & Lakeshore Road

07/05/2022

Intersection

| Int Delay, s/veh         | 43.2 |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Movement                 | EBL  | EBT  | WBT  | WBR  | SBL  | SBR  |
| Lane Configurations      | ↰    | ↗↗   | ↰    |      | ↰    |      |
| Traffic Vol, veh/h       | 613  | 959  | 882  | 1    | 0    | 408  |
| Future Vol, veh/h        | 613  | 959  | 882  | 1    | 0    | 408  |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | 225  | -    | -    | -    | 0    | -    |
| Veh in Median Storage, # | -    | 0    | 0    | -    | 0    | -    |
| Grade, %                 | -    | 0    | 0    | -    | 0    | -    |
| Peak Hour Factor         | 92   | 92   | 93   | 93   | 91   | 91   |
| Heavy Vehicles, %        | 1    | 1    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 666  | 1042 | 948  | 1    | 0    | 448  |

| Major/Minor          | Major1 | Major2 | Minor2        |
|----------------------|--------|--------|---------------|
| Conflicting Flow All | 949    | 0      | 0 2802 949    |
| Stage 1              | -      | -      | - 949 -       |
| Stage 2              | -      | -      | - 1853 -      |
| Critical Hdwy        | 4.115  | -      | - 6.63 6.23   |
| Critical Hdwy Stg 1  | -      | -      | - 5.43 -      |
| Critical Hdwy Stg 2  | -      | -      | - 5.83 -      |
| Follow-up Hdwy       | 2.2095 | -      | - 3.519 3.319 |
| Pot Cap-1 Maneuver   | 727    | -      | - 17 ~315     |
| Stage 1              | -      | -      | - 375 -       |
| Stage 2              | -      | -      | - 110 -       |
| Platoon blocked, %   | -      | -      | -             |
| Mov Cap-1 Maneuver   | 727    | -      | - 1 ~315      |
| Mov Cap-2 Maneuver   | -      | -      | - 1 -         |
| Stage 1              | -      | -      | - 32 -        |
| Stage 2              | -      | -      | - 110 -       |

| Approach             | EB   | WB | SB    |
|----------------------|------|----|-------|
| HCM Control Delay, s | 15.6 | 0  | 239.7 |
| HCM LOS              |      |    | F     |

| Minor Lane/Major Mvmt | EBL   | EBT | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-----|-------|
| Capacity (veh/h)      | 727   | -   | -   | -   | 315   |
| HCM Lane V/C Ratio    | 0.917 | -   | -   | -   | 1.423 |
| HCM Control Delay (s) | 40.1  | -   | -   | -   | 239.7 |
| HCM Lane LOS          | E     | -   | -   | -   | F     |
| HCM 95th %tile Q(veh) | 12.5  | -   | -   | -   | 23.7  |

Notes

~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon



Lanes, Volumes, Timings  
5: South Bay Road & Route 31

07/05/2022

|                            |  |  |  |  |  |  |   |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |  |  |                                                                                   |  |  |                                                                                   |  |  |                                                                                     |  |  |                                                                                     |
| Traffic Volume (vph)       | 61                                                                                | 458                                                                               | 111                                                                               | 141                                                                               | 354                                                                               | 19                                                                                | 76                                                                                 | 331                                                                                 | 207                                                                                 | 8                                                                                   | 170                                                                                 | 51                                                                                  |
| Future Volume (vph)        | 61                                                                                | 458                                                                               | 111                                                                               | 141                                                                               | 354                                                                               | 19                                                                                | 76                                                                                 | 331                                                                                 | 207                                                                                 | 8                                                                                   | 170                                                                                 | 51                                                                                  |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                               | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 225                                                                               |                                                                                   | 0                                                                                 | 225                                                                               |                                                                                   | 0                                                                                 | 280                                                                                |                                                                                     | 0                                                                                   | 225                                                                                 |                                                                                     | 0                                                                                   |
| Storage Lanes              | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                  |                                                                                     | 0                                                                                   | 1                                                                                   |                                                                                     | 0                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                 |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 1770                                                                              | 1809                                                                              | 0                                                                                 | 1752                                                                              | 1832                                                                              | 0                                                                                 | 1770                                                                               | 1755                                                                                | 0                                                                                   | 1770                                                                                | 1789                                                                                | 0                                                                                   |
| Flt Permitted              | 0.393                                                                             |                                                                                   |                                                                                   | 0.105                                                                             |                                                                                   |                                                                                   | 0.424                                                                              |                                                                                     |                                                                                     | 0.131                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)          | 732                                                                               | 1809                                                                              | 0                                                                                 | 194                                                                               | 1832                                                                              | 0                                                                                 | 789                                                                                | 1755                                                                                | 0                                                                                   | 244                                                                                 | 1789                                                                                | 0                                                                                   |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                    |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 3                                                                                 |                                                                                   |                                                                                    | 30                                                                                  |                                                                                     |                                                                                     | 14                                                                                  |                                                                                     |
| Link Speed (mph)           |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 55                                                                                |                                                                                   |                                                                                    | 45                                                                                  |                                                                                     |                                                                                     | 45                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 788                                                                               |                                                                                   |                                                                                   | 825                                                                               |                                                                                   |                                                                                    | 794                                                                                 |                                                                                     |                                                                                     | 652                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 11.9                                                                              |                                                                                   |                                                                                   | 10.2                                                                              |                                                                                   |                                                                                    | 12.0                                                                                |                                                                                     |                                                                                     | 9.9                                                                                 |                                                                                     |
| Confl. Peds. (#/hr)        |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1                                                                                  |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 1                                                                                   |
| Peak Hour Factor           | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.86                                                                               | 0.86                                                                                | 0.86                                                                                | 0.85                                                                                | 0.85                                                                                | 0.85                                                                                |
| Heavy Vehicles (%)         | 2%                                                                                | 2%                                                                                | 2%                                                                                | 3%                                                                                | 3%                                                                                | 3%                                                                                | 2%                                                                                 | 2%                                                                                  | 2%                                                                                  | 2%                                                                                  | 2%                                                                                  | 2%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 66                                                                                | 619                                                                               | 0                                                                                 | 152                                                                               | 401                                                                               | 0                                                                                 | 88                                                                                 | 626                                                                                 | 0                                                                                   | 9                                                                                   | 260                                                                                 | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                 | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                               | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                    | 12                                                                                  |                                                                                     |                                                                                     | 12                                                                                  |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                    | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                    | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                 |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                              | NA                                                                                  |                                                                                     | pm+pt                                                                               | NA                                                                                  |                                                                                     |
| Protected Phases           | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 3                                                                                  | 8                                                                                   |                                                                                     | 7                                                                                   | 4                                                                                   |                                                                                     |
| Permitted Phases           | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                  |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |                                                                                     |
| Detector Phase             | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 3                                                                                  | 8                                                                                   |                                                                                     | 7                                                                                   | 4                                                                                   |                                                                                     |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 6.0                                                                               | 15.0                                                                              |                                                                                   | 6.0                                                                               | 15.0                                                                              |                                                                                   | 6.0                                                                                | 10.0                                                                                |                                                                                     | 6.0                                                                                 | 10.0                                                                                |                                                                                     |
| Minimum Split (s)          | 10.5                                                                              | 22.8                                                                              |                                                                                   | 10.5                                                                              | 22.8                                                                              |                                                                                   | 10.5                                                                               | 16.8                                                                                |                                                                                     | 10.5                                                                                | 16.8                                                                                |                                                                                     |
| Total Split (s)            | 12.0                                                                              | 44.0                                                                              |                                                                                   | 12.0                                                                              | 44.0                                                                              |                                                                                   | 12.0                                                                               | 42.0                                                                                |                                                                                     | 12.0                                                                                | 42.0                                                                                |                                                                                     |
| Total Split (%)            | 10.9%                                                                             | 40.0%                                                                             |                                                                                   | 10.9%                                                                             | 40.0%                                                                             |                                                                                   | 10.9%                                                                              | 38.2%                                                                               |                                                                                     | 10.9%                                                                               | 38.2%                                                                               |                                                                                     |
| Maximum Green (s)          | 7.5                                                                               | 36.2                                                                              |                                                                                   | 7.5                                                                               | 36.2                                                                              |                                                                                   | 7.5                                                                                | 35.2                                                                                |                                                                                     | 7.5                                                                                 | 35.2                                                                                |                                                                                     |
| Yellow Time (s)            | 3.5                                                                               | 4.9                                                                               |                                                                                   | 3.5                                                                               | 4.9                                                                               |                                                                                   | 3.5                                                                                | 4.9                                                                                 |                                                                                     | 3.5                                                                                 | 4.9                                                                                 |                                                                                     |
| All-Red Time (s)           | 1.0                                                                               | 2.9                                                                               |                                                                                   | 1.0                                                                               | 2.9                                                                               |                                                                                   | 1.0                                                                                | 1.9                                                                                 |                                                                                     | 1.0                                                                                 | 1.9                                                                                 |                                                                                     |
| Lost Time Adjust (s)       | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                                | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)        | 4.5                                                                               | 7.8                                                                               |                                                                                   | 4.5                                                                               | 7.8                                                                               |                                                                                   | 4.5                                                                                | 6.8                                                                                 |                                                                                     | 4.5                                                                                 | 6.8                                                                                 |                                                                                     |
| Lead/Lag                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                               | Lag                                                                                 |                                                                                     | Lead                                                                                | Lag                                                                                 |                                                                                     |
| Lead-Lag Optimize?         | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                                | Yes                                                                                 |                                                                                     | Yes                                                                                 | Yes                                                                                 |                                                                                     |
| Vehicle Extension (s)      | 3.0                                                                               | 6.0                                                                               |                                                                                   | 3.0                                                                               | 6.0                                                                               |                                                                                   | 3.0                                                                                | 6.0                                                                                 |                                                                                     | 3.0                                                                                 | 6.0                                                                                 |                                                                                     |
| Minimum Gap (s)            | 3.0                                                                               | 2.0                                                                               |                                                                                   | 3.0                                                                               | 2.0                                                                               |                                                                                   | 3.0                                                                                | 2.0                                                                                 |                                                                                     | 3.0                                                                                 | 2.0                                                                                 |                                                                                     |
| Time Before Reduce (s)     | 0.0                                                                               | 10.0                                                                              |                                                                                   | 0.0                                                                               | 10.0                                                                              |                                                                                   | 0.0                                                                                | 10.0                                                                                |                                                                                     | 0.0                                                                                 | 10.0                                                                                |                                                                                     |
| Time To Reduce (s)         | 0.0                                                                               | 15.0                                                                              |                                                                                   | 0.0                                                                               | 15.0                                                                              |                                                                                   | 0.0                                                                                | 15.0                                                                                |                                                                                     | 0.0                                                                                 | 15.0                                                                                |                                                                                     |
| Recall Mode                | None                                                                              | Min                                                                               |                                                                                   | None                                                                              | Min                                                                               |                                                                                   | None                                                                               | None                                                                                |                                                                                     | None                                                                                | None                                                                                |                                                                                     |



# Lanes, Volumes, Timings

## 5: South Bay Road & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Act Effect Green (s)    | 46.7                                                                              | 36.3                                                                              |                                                                                   | 48.2                                                                              | 38.9                                                                              |                                                                                   | 39.1                                                                               | 35.4                                                                                |                                                                                     | 35.2                                                                                | 27.9                                                                                |                                                                                     |
| Actuated g/C Ratio      | 0.47                                                                              | 0.36                                                                              |                                                                                   | 0.48                                                                              | 0.39                                                                              |                                                                                   | 0.39                                                                               | 0.35                                                                                |                                                                                     | 0.35                                                                                | 0.28                                                                                |                                                                                     |
| v/c Ratio               | 0.16                                                                              | 0.94                                                                              |                                                                                   | 0.73                                                                              | 0.56                                                                              |                                                                                   | 0.23                                                                               | 0.98                                                                                |                                                                                     | 0.05                                                                                | 0.51                                                                                |                                                                                     |
| Control Delay           | 14.4                                                                              | 54.4                                                                              |                                                                                   | 38.4                                                                              | 29.5                                                                              |                                                                                   | 20.6                                                                               | 63.7                                                                                |                                                                                     | 18.5                                                                                | 33.7                                                                                |                                                                                     |
| Queue Delay             | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                                | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Delay             | 14.4                                                                              | 54.4                                                                              |                                                                                   | 38.4                                                                              | 29.5                                                                              |                                                                                   | 20.6                                                                               | 63.7                                                                                |                                                                                     | 18.5                                                                                | 33.7                                                                                |                                                                                     |
| LOS                     | B                                                                                 | D                                                                                 |                                                                                   | D                                                                                 | C                                                                                 |                                                                                   | C                                                                                  | E                                                                                   |                                                                                     | B                                                                                   | C                                                                                   |                                                                                     |
| Approach Delay          |                                                                                   | 50.6                                                                              |                                                                                   |                                                                                   | 31.9                                                                              |                                                                                   |                                                                                    | 58.4                                                                                |                                                                                     |                                                                                     | 33.2                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                    | E                                                                                   |                                                                                     |                                                                                     | C                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 19                                                                                | 357                                                                               |                                                                                   | 47                                                                                | 197                                                                               |                                                                                   | 35                                                                                 | 364                                                                                 |                                                                                     | 3                                                                                   | 137                                                                                 |                                                                                     |
| Queue Length 95th (ft)  | 50                                                                                | #679                                                                              |                                                                                   | #162                                                                              | 346                                                                               |                                                                                   | 63                                                                                 | #645                                                                                |                                                                                     | 12                                                                                  | 199                                                                                 |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 708                                                                               |                                                                                   |                                                                                   | 745                                                                               |                                                                                   |                                                                                    | 714                                                                                 |                                                                                     |                                                                                     | 572                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 225                                                                               |                                                                                   |                                                                                   | 225                                                                               |                                                                                   |                                                                                   | 280                                                                                |                                                                                     |                                                                                     | 225                                                                                 |                                                                                     |                                                                                     |
| Base Capacity (vph)     | 421                                                                               | 661                                                                               |                                                                                   | 209                                                                               | 711                                                                               |                                                                                   | 380                                                                                | 637                                                                                 |                                                                                     | 202                                                                                 | 637                                                                                 |                                                                                     |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       | 0.16                                                                              | 0.94                                                                              |                                                                                   | 0.73                                                                              | 0.56                                                                              |                                                                                   | 0.23                                                                               | 0.98                                                                                |                                                                                     | 0.04                                                                                | 0.41                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 100.4

Natural Cycle: 120

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay: 46.3

Intersection LOS: D

Intersection Capacity Utilization 93.4%

ICU Level of Service F

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

### Splits and Phases: 5: South Bay Road & Route 31

|                                                                                     |                                                                                     |                                                                                     |                                                                                      |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|  |  |  |  |
| Ø1                                                                                  | Ø2                                                                                  | Ø3                                                                                  | Ø4                                                                                   |
| 12 s                                                                                | 44 s                                                                                | 12 s                                                                                | 42 s                                                                                 |
|  |  |  |  |
| Ø5                                                                                  | Ø6                                                                                  | Ø7                                                                                  | Ø8                                                                                   |
| 12 s                                                                                | 44 s                                                                                | 12 s                                                                                | 42 s                                                                                 |



Lanes, Volumes, Timings  
6: Cicero Center Road & Route 31

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (vph)       | 97                                                                                | 465                                                                               | 23                                                                                | 6                                                                                 | 413                                                                               | 39                                                                                | 19                                                                                | 41                                                                                  | 14                                                                                  | 26                                                                                  | 16                                                                                  | 54                                                                                  |
| Future Volume (vph)        | 97                                                                                | 465                                                                               | 23                                                                                | 6                                                                                 | 413                                                                               | 39                                                                                | 19                                                                                | 41                                                                                  | 14                                                                                  | 26                                                                                  | 16                                                                                  | 54                                                                                  |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Satd. Flow (prot)          | 0                                                                                 | 1857                                                                              | 0                                                                                 | 0                                                                                 | 1857                                                                              | 0                                                                                 | 0                                                                                 | 1810                                                                                | 0                                                                                   | 0                                                                                   | 1716                                                                                | 0                                                                                   |
| Flt Permitted              |                                                                                   | 0.848                                                                             |                                                                                   |                                                                                   | 0.992                                                                             |                                                                                   |                                                                                   | 0.905                                                                               |                                                                                     |                                                                                     | 0.874                                                                               |                                                                                     |
| Satd. Flow (perm)          | 0                                                                                 | 1587                                                                              | 0                                                                                 | 0                                                                                 | 1844                                                                              | 0                                                                                 | 0                                                                                 | 1660                                                                                | 0                                                                                   | 0                                                                                   | 1519                                                                                | 0                                                                                   |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 13                                                                                |                                                                                   |                                                                                   | 19                                                                                  |                                                                                     |                                                                                     | 66                                                                                  |                                                                                     |
| Link Speed (mph)           |                                                                                   | 55                                                                                |                                                                                   |                                                                                   | 55                                                                                |                                                                                   |                                                                                   | 55                                                                                  |                                                                                     |                                                                                     | 55                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 583                                                                               |                                                                                   |                                                                                   | 608                                                                               |                                                                                   |                                                                                   | 500                                                                                 |                                                                                     |                                                                                     | 505                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 7.2                                                                               |                                                                                   |                                                                                   | 7.5                                                                               |                                                                                   |                                                                                   | 6.2                                                                                 |                                                                                     |                                                                                     | 6.3                                                                                 |                                                                                     |
| Peak Hour Factor           | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.73                                                                              | 0.73                                                                                | 0.73                                                                                | 0.82                                                                                | 0.82                                                                                | 0.82                                                                                |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 0                                                                                 | 664                                                                               | 0                                                                                 | 0                                                                                 | 492                                                                               | 0                                                                                 | 0                                                                                 | 101                                                                                 | 0                                                                                   | 0                                                                                   | 118                                                                                 | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                  |                                                                                     | Perm                                                                                | NA                                                                                  |                                                                                     |
| Protected Phases           |                                                                                   | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                   |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |
| Permitted Phases           | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |                                                                                     |
| Detector Phase             | 2                                                                                 | 2                                                                                 |                                                                                   | 6                                                                                 | 6                                                                                 |                                                                                   | 8                                                                                 | 8                                                                                   |                                                                                     | 4                                                                                   | 4                                                                                   |                                                                                     |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 15.0                                                                              | 15.0                                                                              |                                                                                   | 15.0                                                                              | 15.0                                                                              |                                                                                   | 7.0                                                                               | 7.0                                                                                 |                                                                                     | 7.0                                                                                 | 7.0                                                                                 |                                                                                     |
| Minimum Split (s)          | 21.0                                                                              | 21.0                                                                              |                                                                                   | 21.0                                                                              | 21.0                                                                              |                                                                                   | 12.0                                                                              | 12.0                                                                                |                                                                                     | 12.0                                                                                | 12.0                                                                                |                                                                                     |
| Total Split (s)            | 30.0                                                                              | 30.0                                                                              |                                                                                   | 30.0                                                                              | 30.0                                                                              |                                                                                   | 20.0                                                                              | 20.0                                                                                |                                                                                     | 20.0                                                                                | 20.0                                                                                |                                                                                     |
| Total Split (%)            | 60.0%                                                                             | 60.0%                                                                             |                                                                                   | 60.0%                                                                             | 60.0%                                                                             |                                                                                   | 40.0%                                                                             | 40.0%                                                                               |                                                                                     | 40.0%                                                                               | 40.0%                                                                               |                                                                                     |
| Maximum Green (s)          | 24.0                                                                              | 24.0                                                                              |                                                                                   | 24.0                                                                              | 24.0                                                                              |                                                                                   | 15.0                                                                              | 15.0                                                                                |                                                                                     | 15.0                                                                                | 15.0                                                                                |                                                                                     |
| Yellow Time (s)            | 4.0                                                                               | 4.0                                                                               |                                                                                   | 4.0                                                                               | 4.0                                                                               |                                                                                   | 4.0                                                                               | 4.0                                                                                 |                                                                                     | 4.0                                                                                 | 4.0                                                                                 |                                                                                     |
| All-Red Time (s)           | 2.0                                                                               | 2.0                                                                               |                                                                                   | 2.0                                                                               | 2.0                                                                               |                                                                                   | 1.0                                                                               | 1.0                                                                                 |                                                                                     | 1.0                                                                                 | 1.0                                                                                 |                                                                                     |
| Lost Time Adjust (s)       |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                                 |                                                                                     |                                                                                     | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)        |                                                                                   | 6.0                                                                               |                                                                                   |                                                                                   | 6.0                                                                               |                                                                                   |                                                                                   | 5.0                                                                                 |                                                                                     |                                                                                     | 5.0                                                                                 |                                                                                     |
| Lead/Lag                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?         |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Vehicle Extension (s)      | 5.0                                                                               | 5.0                                                                               |                                                                                   | 5.0                                                                               | 5.0                                                                               |                                                                                   | 2.0                                                                               | 2.0                                                                                 |                                                                                     | 2.0                                                                                 | 2.0                                                                                 |                                                                                     |
| Recall Mode                | Max                                                                               | Max                                                                               |                                                                                   | Max                                                                               | Max                                                                               |                                                                                   | None                                                                              | None                                                                                |                                                                                     | None                                                                                | None                                                                                |                                                                                     |
| Act Effect Green (s)       |                                                                                   | 28.1                                                                              |                                                                                   |                                                                                   | 28.1                                                                              |                                                                                   |                                                                                   | 7.7                                                                                 |                                                                                     |                                                                                     | 7.7                                                                                 |                                                                                     |
| Actuated g/C Ratio         |                                                                                   | 0.65                                                                              |                                                                                   |                                                                                   | 0.65                                                                              |                                                                                   |                                                                                   | 0.18                                                                                |                                                                                     |                                                                                     | 0.18                                                                                |                                                                                     |
| v/c Ratio                  |                                                                                   | 0.64                                                                              |                                                                                   |                                                                                   | 0.41                                                                              |                                                                                   |                                                                                   | 0.33                                                                                |                                                                                     |                                                                                     | 0.37                                                                                |                                                                                     |
| Control Delay              |                                                                                   | 11.7                                                                              |                                                                                   |                                                                                   | 6.6                                                                               |                                                                                   |                                                                                   | 16.0                                                                                |                                                                                     |                                                                                     | 11.8                                                                                |                                                                                     |
| Queue Delay                |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                                 |                                                                                     |                                                                                     | 0.0                                                                                 |                                                                                     |
| Total Delay                |                                                                                   | 11.7                                                                              |                                                                                   |                                                                                   | 6.6                                                                               |                                                                                   |                                                                                   | 16.0                                                                                |                                                                                     |                                                                                     | 11.8                                                                                |                                                                                     |
| LOS                        |                                                                                   | B                                                                                 |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | B                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |



# Lanes, Volumes, Timings

## 6: Cicero Center Road & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Approach Delay          |                                                                                   | 11.7                                                                              |                                                                                   |                                                                                   | 6.6                                                                               |                                                                                   |                                                                                   | 16.0                                                                                |                                                                                     |                                                                                     | 11.8                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | B                                                                                 |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | B                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| Queue Length 50th (ft)  |                                                                                   | 94                                                                                |                                                                                   |                                                                                   | 54                                                                                |                                                                                   |                                                                                   | 17                                                                                  |                                                                                     |                                                                                     | 11                                                                                  |                                                                                     |
| Queue Length 95th (ft)  |                                                                                   | #277                                                                              |                                                                                   |                                                                                   | 121                                                                               |                                                                                   |                                                                                   | 37                                                                                  |                                                                                     |                                                                                     | 37                                                                                  |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 503                                                                               |                                                                                   |                                                                                   | 528                                                                               |                                                                                   |                                                                                   | 420                                                                                 |                                                                                     |                                                                                     | 425                                                                                 |                                                                                     |
| Turn Bay Length (ft)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Base Capacity (vph)     |                                                                                   | 1031                                                                              |                                                                                   |                                                                                   | 1200                                                                              |                                                                                   |                                                                                   | 588                                                                                 |                                                                                     |                                                                                     | 570                                                                                 |                                                                                     |
| Starvation Cap Reductn  |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       |                                                                                   | 0.64                                                                              |                                                                                   |                                                                                   | 0.41                                                                              |                                                                                   |                                                                                   | 0.17                                                                                |                                                                                     |                                                                                     | 0.21                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Cycle Length: 50

Actuated Cycle Length: 43.3

Natural Cycle: 45

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 10.2

Intersection LOS: B

Intersection Capacity Utilization 77.4%

ICU Level of Service D

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: Cicero Center Road & Route 31

|                                                                                        |                                                                                        |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
|  Ø2 |  Ø4 |
| 30 s                                                                                   | 20 s                                                                                   |
|  Ø6 |  Ø8 |
| 30 s                                                                                   | 20 s                                                                                   |



Lanes, Volumes, Timings  
7: Route 31 & Lakeshore Road (East)

07/05/2022

|                            |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | WBT                                                                               | WBR                                                                               | SBL                                                                               | SBR                                                                               |
| Lane Configurations        |                                                                                   |  |  |                                                                                   |  |                                                                                   |
| Traffic Volume (vph)       | 47                                                                                | 482                                                                               | 420                                                                               | 50                                                                                | 43                                                                                | 22                                                                                |
| Future Volume (vph)        | 47                                                                                | 482                                                                               | 420                                                                               | 50                                                                                | 43                                                                                | 22                                                                                |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Satd. Flow (prot)          | 0                                                                                 | 1874                                                                              | 1855                                                                              | 0                                                                                 | 1737                                                                              | 0                                                                                 |
| Flt Permitted              |                                                                                   | 0.996                                                                             |                                                                                   |                                                                                   | 0.968                                                                             |                                                                                   |
| Satd. Flow (perm)          | 0                                                                                 | 1874                                                                              | 1855                                                                              | 0                                                                                 | 1737                                                                              | 0                                                                                 |
| Link Speed (mph)           |                                                                                   | 55                                                                                | 55                                                                                |                                                                                   | 35                                                                                |                                                                                   |
| Link Distance (ft)         |                                                                                   | 516                                                                               | 592                                                                               |                                                                                   | 420                                                                               |                                                                                   |
| Travel Time (s)            |                                                                                   | 6.4                                                                               | 7.3                                                                               |                                                                                   | 8.2                                                                               |                                                                                   |
| Peak Hour Factor           | 0.87                                                                              | 0.87                                                                              | 0.89                                                                              | 0.89                                                                              | 0.81                                                                              | 0.81                                                                              |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)      | 0                                                                                 | 608                                                                               | 528                                                                               | 0                                                                                 | 80                                                                                | 0                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment             | Left                                                                              | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Right                                                                             |
| Median Width(ft)           |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 12                                                                                |                                                                                   |
| Link Offset(ft)            |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 |                                                                                   |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                | 16                                                                                |                                                                                   | 16                                                                                |                                                                                   |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (mph)        | 15                                                                                |                                                                                   |                                                                                   | 9                                                                                 | 15                                                                                | 9                                                                                 |
| Sign Control               |                                                                                   | Free                                                                              | Free                                                                              |                                                                                   | Stop                                                                              |                                                                                   |

Intersection Summary

Area Type: Other  
Control Type: Unsignalized  
Intersection Capacity Utilization 66.8%  
Analysis Period (min) 15

ICU Level of Service C



HCM 6th TWSC  
7: Route 31 & Lakeshore Road (East)

07/05/2022

Intersection

Int Delay, s/veh 2.1

| Movement                 | EBL  | EBT                                                                               | WBT                                                                               | WBR  | SBL                                                                               | SBR  |
|--------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|------|
| Lane Configurations      |      |  |  |      |  |      |
| Traffic Vol, veh/h       | 47   | 482                                                                               | 420                                                                               | 50   | 43                                                                                | 22   |
| Future Vol, veh/h        | 47   | 482                                                                               | 420                                                                               | 50   | 43                                                                                | 22   |
| Conflicting Peds, #/hr   | 0    | 0                                                                                 | 0                                                                                 | 0    | 0                                                                                 | 0    |
| Sign Control             | Free | Free                                                                              | Free                                                                              | Free | Stop                                                                              | Stop |
| RT Channelized           | -    | None                                                                              | -                                                                                 | None | -                                                                                 | None |
| Storage Length           | -    | -                                                                                 | -                                                                                 | -    | 0                                                                                 | -    |
| Veh in Median Storage, # | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Grade, %                 | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Peak Hour Factor         | 87   | 87                                                                                | 89                                                                                | 89   | 81                                                                                | 81   |
| Heavy Vehicles, %        | 1    | 1                                                                                 | 1                                                                                 | 1    | 1                                                                                 | 1    |
| Mvmt Flow                | 54   | 554                                                                               | 472                                                                               | 56   | 53                                                                                | 27   |

| Major/Minor          | Major1 | Major2 | Minor2        |
|----------------------|--------|--------|---------------|
| Conflicting Flow All | 528    | 0      | 0 1162 500    |
| Stage 1              | -      | -      | - 500 -       |
| Stage 2              | -      | -      | - 662 -       |
| Critical Hdwy        | 4.11   | -      | - 6.41 6.21   |
| Critical Hdwy Stg 1  | -      | -      | - 5.41 -      |
| Critical Hdwy Stg 2  | -      | -      | - 5.41 -      |
| Follow-up Hdwy       | 2.209  | -      | - 3.509 3.309 |
| Pot Cap-1 Maneuver   | 1044   | -      | - 217 573     |
| Stage 1              | -      | -      | - 611 -       |
| Stage 2              | -      | -      | - 515 -       |
| Platoon blocked, %   | -      | -      | -             |
| Mov Cap-1 Maneuver   | 1044   | -      | - 201 573     |
| Mov Cap-2 Maneuver   | -      | -      | - 201 -       |
| Stage 1              | -      | -      | - 565 -       |
| Stage 2              | -      | -      | - 515 -       |

| Approach             | EB  | WB | SB   |
|----------------------|-----|----|------|
| HCM Control Delay, s | 0.8 | 0  | 25.1 |
| HCM LOS              |     |    | D    |

| Minor Lane/Major Mvmt | EBL   | EBT | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-----|-------|
| Capacity (veh/h)      | 1044  | -   | -   | -   | 258   |
| HCM Lane V/C Ratio    | 0.052 | -   | -   | -   | 0.311 |
| HCM Control Delay (s) | 8.6   | 0   | -   | -   | 25.1  |
| HCM Lane LOS          | A     | A   | -   | -   | D     |
| HCM 95th %tile Q(veh) | 0.2   | -   | -   | -   | 1.3   |



# Lanes, Volumes, Timings

## 8: Thompson Road & South Bay Road

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |  |  |                                                                                   |  |  |                                                                                   |                                                                                   |  |  |                                                                                     |  |  |
| Traffic Volume (vph)       | 316                                                                               | 386                                                                               | 2                                                                                 | 118                                                                               | 325                                                                               | 24                                                                                | 19                                                                                | 323                                                                                 | 231                                                                                 | 9                                                                                   | 150                                                                                 | 238                                                                                 |
| Future Volume (vph)        | 316                                                                               | 386                                                                               | 2                                                                                 | 118                                                                               | 325                                                                               | 24                                                                                | 19                                                                                | 323                                                                                 | 231                                                                                 | 9                                                                                   | 150                                                                                 | 238                                                                                 |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 300                                                                               |                                                                                   | 0                                                                                 | 250                                                                               |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                     | 210                                                                                 | 0                                                                                   |                                                                                     | 600                                                                                 |
| Storage Lanes              | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                     | 1                                                                                   | 0                                                                                   |                                                                                     | 1                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 1787                                                                              | 1879                                                                              | 0                                                                                 | 1787                                                                              | 1862                                                                              | 0                                                                                 | 0                                                                                 | 1857                                                                                | 1583                                                                                | 0                                                                                   | 1876                                                                                | 1599                                                                                |
| Flt Permitted              | 0.263                                                                             |                                                                                   |                                                                                   | 0.238                                                                             |                                                                                   |                                                                                   |                                                                                   | 0.976                                                                               |                                                                                     |                                                                                     | 0.969                                                                               |                                                                                     |
| Satd. Flow (perm)          | 495                                                                               | 1879                                                                              | 0                                                                                 | 448                                                                               | 1862                                                                              | 0                                                                                 | 0                                                                                 | 1818                                                                                | 1583                                                                                | 0                                                                                   | 1823                                                                                | 1599                                                                                |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 5                                                                                 |                                                                                   |                                                                                   |                                                                                     | 151                                                                                 |                                                                                     |                                                                                     | 193                                                                                 |
| Link Speed (mph)           |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 45                                                                                  |                                                                                     |                                                                                     | 45                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 1324                                                                              |                                                                                   |                                                                                   | 1155                                                                              |                                                                                   |                                                                                   | 1095                                                                                |                                                                                     |                                                                                     | 1033                                                                                |                                                                                     |
| Travel Time (s)            |                                                                                   | 20.1                                                                              |                                                                                   |                                                                                   | 17.5                                                                              |                                                                                   |                                                                                   | 16.6                                                                                |                                                                                     |                                                                                     | 15.7                                                                                |                                                                                     |
| Peak Hour Factor           | 0.84                                                                              | 0.84                                                                              | 0.84                                                                              | 0.80                                                                              | 0.80                                                                              | 0.80                                                                              | 0.94                                                                              | 0.94                                                                                | 0.94                                                                                | 0.84                                                                                | 0.84                                                                                | 0.84                                                                                |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 2%                                                                                | 2%                                                                                  | 2%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 376                                                                               | 462                                                                               | 0                                                                                 | 148                                                                               | 436                                                                               | 0                                                                                 | 0                                                                                 | 364                                                                                 | 246                                                                                 | 0                                                                                   | 190                                                                                 | 283                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                             | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                  | pm+ov                                                                               | Perm                                                                                | NA                                                                                  | pm+ov                                                                               |
| Protected Phases           | 7                                                                                 | 4                                                                                 |                                                                                   | 3                                                                                 | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                   | 3                                                                                   |                                                                                     | 6                                                                                   | 7                                                                                   |
| Permitted Phases           | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                 |                                                                                     | 2                                                                                   | 6                                                                                   |                                                                                     | 6                                                                                   |
| Detector Phase             | 7                                                                                 | 4                                                                                 |                                                                                   | 3                                                                                 | 8                                                                                 |                                                                                   | 2                                                                                 | 2                                                                                   | 3                                                                                   | 6                                                                                   | 6                                                                                   | 7                                                                                   |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 5.0                                                                               | 10.0                                                                              |                                                                                   | 5.0                                                                               | 5.0                                                                               |                                                                                   | 10.0                                                                              | 10.0                                                                                | 5.0                                                                                 | 10.0                                                                                | 10.0                                                                                | 5.0                                                                                 |
| Minimum Split (s)          | 12.0                                                                              | 17.0                                                                              |                                                                                   | 12.0                                                                              | 12.0                                                                              |                                                                                   | 16.5                                                                              | 16.5                                                                                | 12.0                                                                                | 16.5                                                                                | 16.5                                                                                | 12.0                                                                                |
| Total Split (s)            | 15.0                                                                              | 30.0                                                                              |                                                                                   | 15.0                                                                              | 30.0                                                                              |                                                                                   | 30.0                                                                              | 30.0                                                                                | 15.0                                                                                | 30.0                                                                                | 30.0                                                                                | 15.0                                                                                |
| Total Split (%)            | 20.0%                                                                             | 40.0%                                                                             |                                                                                   | 20.0%                                                                             | 40.0%                                                                             |                                                                                   | 40.0%                                                                             | 40.0%                                                                               | 20.0%                                                                               | 40.0%                                                                               | 40.0%                                                                               | 20.0%                                                                               |
| Maximum Green (s)          | 8.0                                                                               | 23.0                                                                              |                                                                                   | 8.0                                                                               | 23.0                                                                              |                                                                                   | 23.5                                                                              | 23.5                                                                                | 8.0                                                                                 | 23.5                                                                                | 23.5                                                                                | 8.0                                                                                 |
| Yellow Time (s)            | 4.0                                                                               | 4.0                                                                               |                                                                                   | 4.0                                                                               | 4.0                                                                               |                                                                                   | 3.5                                                                               | 3.5                                                                                 | 4.0                                                                                 | 3.5                                                                                 | 3.5                                                                                 | 4.0                                                                                 |
| All-Red Time (s)           | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |
| Lost Time Adjust (s)       | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                                 | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |
| Total Lost Time (s)        | 7.0                                                                               | 7.0                                                                               |                                                                                   | 7.0                                                                               | 7.0                                                                               |                                                                                   |                                                                                   | 6.5                                                                                 | 7.0                                                                                 |                                                                                     | 6.5                                                                                 | 7.0                                                                                 |
| Lead/Lag                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                              | Lag                                                                               |                                                                                   |                                                                                   |                                                                                     | Lead                                                                                |                                                                                     |                                                                                     | Lead                                                                                |
| Lead-Lag Optimize?         | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                               | Yes                                                                               |                                                                                   |                                                                                   |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Vehicle Extension (s)      | 3.0                                                                               | 2.0                                                                               |                                                                                   | 3.0                                                                               | 2.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |
| Recall Mode                | None                                                                              | Min                                                                               |                                                                                   | None                                                                              | Min                                                                               |                                                                                   | Max                                                                               | Max                                                                                 | None                                                                                | Max                                                                                 | Max                                                                                 | None                                                                                |
| Act Effct Green (s)        | 28.6                                                                              | 20.6                                                                              |                                                                                   | 27.9                                                                              | 20.3                                                                              |                                                                                   |                                                                                   | 23.6                                                                                | 37.8                                                                                |                                                                                     | 23.6                                                                                | 38.1                                                                                |
| Actuated g/C Ratio         | 0.40                                                                              | 0.28                                                                              |                                                                                   | 0.39                                                                              | 0.28                                                                              |                                                                                   |                                                                                   | 0.33                                                                                | 0.52                                                                                |                                                                                     | 0.33                                                                                | 0.53                                                                                |
| v/c Ratio                  | 1.11                                                                              | 0.86                                                                              |                                                                                   | 0.47                                                                              | 0.83                                                                              |                                                                                   |                                                                                   | 0.62                                                                                | 0.27                                                                                |                                                                                     | 0.32                                                                                | 0.30                                                                                |
| Control Delay              | 101.9                                                                             | 42.6                                                                              |                                                                                   | 15.9                                                                              | 39.3                                                                              |                                                                                   |                                                                                   | 26.8                                                                                | 5.1                                                                                 |                                                                                     | 21.1                                                                                | 4.6                                                                                 |



# Lanes, Volumes, Timings

## 8: Thompson Road & South Bay Road

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Queue Delay             | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                    | 0.0                                                                                 | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |
| Total Delay             | 101.9                                                                             | 42.6                                                                              |                                                                                   | 15.9                                                                              | 39.3                                                                              |                                                                                   |                                                                                    | 26.8                                                                                | 5.1                                                                                 |                                                                                     | 21.1                                                                                | 4.6                                                                                 |
| LOS                     | F                                                                                 | D                                                                                 |                                                                                   | B                                                                                 | D                                                                                 |                                                                                   |                                                                                    | C                                                                                   | A                                                                                   |                                                                                     | C                                                                                   | A                                                                                   |
| Approach Delay          |                                                                                   | 69.2                                                                              |                                                                                   |                                                                                   | 33.3                                                                              |                                                                                   |                                                                                    | 18.0                                                                                |                                                                                     |                                                                                     | 11.2                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | E                                                                                 |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                    | B                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | ~123                                                                              | 196                                                                               |                                                                                   | 35                                                                                | 180                                                                               |                                                                                   |                                                                                    | 144                                                                                 | 22                                                                                  |                                                                                     | 67                                                                                  | 21                                                                                  |
| Queue Length 95th (ft)  | #251                                                                              | #302                                                                              |                                                                                   | 57                                                                                | 240                                                                               |                                                                                   |                                                                                    | 232                                                                                 | 59                                                                                  |                                                                                     | 109                                                                                 | 51                                                                                  |
| Internal Link Dist (ft) |                                                                                   | 1244                                                                              |                                                                                   |                                                                                   | 1075                                                                              |                                                                                   |                                                                                    | 1015                                                                                |                                                                                     |                                                                                     | 953                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 300                                                                               |                                                                                   |                                                                                   | 250                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     | 210                                                                                 |                                                                                     |                                                                                     | 600                                                                                 |
| Base Capacity (vph)     | 338                                                                               | 598                                                                               |                                                                                   | 323                                                                               | 596                                                                               |                                                                                   |                                                                                    | 591                                                                                 | 904                                                                                 |                                                                                     | 593                                                                                 | 933                                                                                 |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                    | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                    | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                    | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |
| Reduced v/c Ratio       | 1.11                                                                              | 0.77                                                                              |                                                                                   | 0.46                                                                              | 0.73                                                                              |                                                                                   |                                                                                    | 0.62                                                                                | 0.27                                                                                |                                                                                     | 0.32                                                                                | 0.30                                                                                |

### Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 72.4

Natural Cycle: 75

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.11

Intersection Signal Delay: 37.4

Intersection LOS: D

Intersection Capacity Utilization 85.0%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

### Splits and Phases: 8: Thompson Road & South Bay Road

|                                                                                        |                                                                                        |                                                                                        |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
|  Ø2 |  Ø3 |  Ø4 |
| 30 s                                                                                   | 15 s                                                                                   | 30 s                                                                                   |
|  Ø6 |  Ø7 |  Ø8 |
| 30 s                                                                                   | 15 s                                                                                   | 30 s                                                                                   |



# Lanes, Volumes, Timings

## 9: Lakeshore Road & Mudd Mill Road

07/05/2022

|                            |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | WBT                                                                               | WBR                                                                               | SBL                                                                               | SBR                                                                               |
| Lane Configurations        |                                                                                   |  |  |                                                                                   |  |                                                                                   |
| Traffic Volume (vph)       | 57                                                                                | 246                                                                               | 169                                                                               | 133                                                                               | 111                                                                               | 38                                                                                |
| Future Volume (vph)        | 57                                                                                | 246                                                                               | 169                                                                               | 133                                                                               | 111                                                                               | 38                                                                                |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Satd. Flow (prot)          | 0                                                                                 | 1846                                                                              | 1719                                                                              | 0                                                                                 | 1701                                                                              | 0                                                                                 |
| Flt Permitted              |                                                                                   | 0.991                                                                             |                                                                                   |                                                                                   | 0.964                                                                             |                                                                                   |
| Satd. Flow (perm)          | 0                                                                                 | 1846                                                                              | 1719                                                                              | 0                                                                                 | 1701                                                                              | 0                                                                                 |
| Link Speed (mph)           |                                                                                   | 35                                                                                | 35                                                                                |                                                                                   | 35                                                                                |                                                                                   |
| Link Distance (ft)         |                                                                                   | 753                                                                               | 701                                                                               |                                                                                   | 545                                                                               |                                                                                   |
| Travel Time (s)            |                                                                                   | 14.7                                                                              | 13.7                                                                              |                                                                                   | 10.6                                                                              |                                                                                   |
| Confl. Peds. (#/hr)        | 1                                                                                 |                                                                                   |                                                                                   | 1                                                                                 |                                                                                   |                                                                                   |
| Peak Hour Factor           | 0.83                                                                              | 0.83                                                                              | 0.85                                                                              | 0.85                                                                              | 0.82                                                                              | 0.82                                                                              |
| Heavy Vehicles (%)         | 2%                                                                                | 2%                                                                                | 4%                                                                                | 4%                                                                                | 4%                                                                                | 4%                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)      | 0                                                                                 | 365                                                                               | 355                                                                               | 0                                                                                 | 181                                                                               | 0                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment             | Left                                                                              | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Right                                                                             |
| Median Width(ft)           |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 12                                                                                |                                                                                   |
| Link Offset(ft)            |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 |                                                                                   |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                | 16                                                                                |                                                                                   | 16                                                                                |                                                                                   |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (mph)        | 15                                                                                |                                                                                   |                                                                                   | 9                                                                                 | 15                                                                                | 9                                                                                 |
| Sign Control               |                                                                                   | Free                                                                              | Free                                                                              |                                                                                   | Stop                                                                              |                                                                                   |

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 51.6%

ICU Level of Service A

Analysis Period (min) 15



HCM 6th TWSC  
9: Lakeshore Road & Mudd Mill Road

07/05/2022

Intersection

| Int Delay, s/veh         | 4.6  |                                                                                   |                                                                                   |      |                                                                                   |      |
|--------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|------|
| Movement                 | EBL  | EBT                                                                               | WBT                                                                               | WBR  | SBL                                                                               | SBR  |
| Lane Configurations      |      |  |  |      |  |      |
| Traffic Vol, veh/h       | 57   | 246                                                                               | 169                                                                               | 133  | 111                                                                               | 38   |
| Future Vol, veh/h        | 57   | 246                                                                               | 169                                                                               | 133  | 111                                                                               | 38   |
| Conflicting Peds, #/hr   | 1    | 0                                                                                 | 0                                                                                 | 1    | 0                                                                                 | 0    |
| Sign Control             | Free | Free                                                                              | Free                                                                              | Free | Stop                                                                              | Stop |
| RT Channelized           | -    | None                                                                              | -                                                                                 | None | -                                                                                 | None |
| Storage Length           | -    | -                                                                                 | -                                                                                 | -    | 0                                                                                 | -    |
| Veh in Median Storage, # | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Grade, %                 | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Peak Hour Factor         | 83   | 83                                                                                | 85                                                                                | 85   | 82                                                                                | 82   |
| Heavy Vehicles, %        | 2    | 2                                                                                 | 4                                                                                 | 4    | 4                                                                                 | 4    |
| Mvmt Flow                | 69   | 296                                                                               | 199                                                                               | 156  | 135                                                                               | 46   |

| Major/Minor          | Major1 | Major2 | Minor2 |
|----------------------|--------|--------|--------|
| Conflicting Flow All | 356    | 0      | 0      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |
| Critical Hdwy        | 4.12   | -      | -      |
| Critical Hdwy Stg 1  | -      | -      | -      |
| Critical Hdwy Stg 2  | -      | -      | -      |
| Follow-up Hdwy       | 2.218  | -      | -      |
| Pot Cap-1 Maneuver   | 1203   | -      | -      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |
| Platoon blocked, %   | -      | -      | -      |
| Mov Cap-1 Maneuver   | 1202   | -      | -      |
| Mov Cap-2 Maneuver   | -      | -      | -      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |

| Approach             | EB  | WB | SB   |
|----------------------|-----|----|------|
| HCM Control Delay, s | 1.5 | 0  | 19.8 |
| HCM LOS              |     |    | C    |

| Minor Lane/Major Mvmt | EBL   | EBT | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-----|-------|
| Capacity (veh/h)      | 1202  | -   | -   | -   | 423   |
| HCM Lane V/C Ratio    | 0.057 | -   | -   | -   | 0.43  |
| HCM Control Delay (s) | 8.2   | 0   | -   | -   | 19.8  |
| HCM Lane LOS          | A     | A   | -   | -   | C     |
| HCM 95th %tile Q(veh) | 0.2   | -   | -   | -   | 2.1   |



Lanes, Volumes, Timings  
10: South Bay Road & Lakeshore Road

07/05/2022

|                            |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                 | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations        |  |                                                                                   |                                                                                   |  |  |                                                                                   |
| Traffic Volume (vph)       | 175                                                                               | 11                                                                                | 96                                                                                | 149                                                                               | 15                                                                                | 138                                                                               |
| Future Volume (vph)        | 175                                                                               | 11                                                                                | 96                                                                                | 149                                                                               | 15                                                                                | 138                                                                               |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Satd. Flow (prot)          | 1830                                                                              | 0                                                                                 | 0                                                                                 | 1827                                                                              | 1643                                                                              | 0                                                                                 |
| Flt Permitted              |                                                                                   |                                                                                   |                                                                                   | 0.981                                                                             | 0.995                                                                             |                                                                                   |
| Satd. Flow (perm)          | 1830                                                                              | 0                                                                                 | 0                                                                                 | 1827                                                                              | 1643                                                                              | 0                                                                                 |
| Link Speed (mph)           | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                | 45                                                                                |                                                                                   |
| Link Distance (ft)         | 538                                                                               |                                                                                   |                                                                                   | 300                                                                               | 501                                                                               |                                                                                   |
| Travel Time (s)            | 10.5                                                                              |                                                                                   |                                                                                   | 5.8                                                                               | 7.6                                                                               |                                                                                   |
| Peak Hour Factor           | 0.81                                                                              | 0.81                                                                              | 0.77                                                                              | 0.77                                                                              | 0.83                                                                              | 0.83                                                                              |
| Heavy Vehicles (%)         | 3%                                                                                | 3%                                                                                | 2%                                                                                | 2%                                                                                | 1%                                                                                | 1%                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)      | 230                                                                               | 0                                                                                 | 0                                                                                 | 319                                                                               | 184                                                                               | 0                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment             | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Left                                                                              | Right                                                                             |
| Median Width(ft)           | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 | 12                                                                                |                                                                                   |
| Link Offset(ft)            | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |
| Crosswalk Width(ft)        | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                | 16                                                                                |                                                                                   |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (mph)        |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 15                                                                                | 9                                                                                 |
| Sign Control               | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              | Stop                                                                              |                                                                                   |

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 42.4%

ICU Level of Service A

Analysis Period (min) 15



HCM 6th TWSC  
10: South Bay Road & Lakeshore Road

07/05/2022

Intersection

| Int Delay, s/veh         | 4.2  |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      | ↔    |      |      | ↔    | ↔    |      |
| Traffic Vol, veh/h       | 175  | 11   | 96   | 149  | 15   | 138  |
| Future Vol, veh/h        | 175  | 11   | 96   | 149  | 15   | 138  |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | -    | -    | 0    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 81   | 81   | 77   | 77   | 83   | 83   |
| Heavy Vehicles, %        | 3    | 3    | 2    | 2    | 1    | 1    |
| Mvmt Flow                | 216  | 14   | 125  | 194  | 18   | 166  |

| Major/Minor          | Major1 | Major2 | Minor1 |
|----------------------|--------|--------|--------|
| Conflicting Flow All | 0      | 0      | 230    |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |
| Critical Hdwy        | -      | 4.12   | -      |
| Critical Hdwy Stg 1  | -      | -      | -      |
| Critical Hdwy Stg 2  | -      | -      | -      |
| Follow-up Hdwy       | -      | 2.218  | -      |
| Pot Cap-1 Maneuver   | -      | 1338   | -      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |
| Platoon blocked, %   | -      | -      | -      |
| Mov Cap-1 Maneuver   | -      | 1338   | -      |
| Mov Cap-2 Maneuver   | -      | -      | -      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |

| Approach             | EB | WB  | NB   |
|----------------------|----|-----|------|
| HCM Control Delay, s | 0  | 3.1 | 11.5 |
| HCM LOS              |    |     | B    |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL   | WBT |
|-----------------------|-------|-----|-----|-------|-----|
| Capacity (veh/h)      | 736   | -   | -   | 1338  | -   |
| HCM Lane V/C Ratio    | 0.25  | -   | -   | 0.093 | -   |
| HCM Control Delay (s) | 11.5  | -   | -   | 8     | 0   |
| HCM Lane LOS          | B     | -   | -   | A     | A   |
| HCM 95th %tile Q(veh) | 1     | -   | -   | 0.3   | -   |



# Lanes, Volumes, Timings

## 11: Cicero Center Road/Van Antwerp Drive & Lakeshore Road

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (vph)       | 2                                                                                 | 271                                                                               | 40                                                                                | 7                                                                                 | 185                                                                               | 0                                                                                 | 59                                                                                | 1                                                                                   | 18                                                                                  | 1                                                                                   | 0                                                                                   | 1                                                                                   |
| Future Volume (vph)        | 2                                                                                 | 271                                                                               | 40                                                                                | 7                                                                                 | 185                                                                               | 0                                                                                 | 59                                                                                | 1                                                                                   | 18                                                                                  | 1                                                                                   | 0                                                                                   | 1                                                                                   |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Satd. Flow (prot)          | 0                                                                                 | 1831                                                                              | 0                                                                                 | 0                                                                                 | 1859                                                                              | 0                                                                                 | 0                                                                                 | 1738                                                                                | 0                                                                                   | 0                                                                                   | 1694                                                                                | 0                                                                                   |
| Flt Permitted              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.998                                                                             |                                                                                   |                                                                                   | 0.964                                                                               |                                                                                     |                                                                                     | 0.976                                                                               |                                                                                     |
| Satd. Flow (perm)          | 0                                                                                 | 1831                                                                              | 0                                                                                 | 0                                                                                 | 1859                                                                              | 0                                                                                 | 0                                                                                 | 1738                                                                                | 0                                                                                   | 0                                                                                   | 1694                                                                                | 0                                                                                   |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 55                                                                                  |                                                                                     |                                                                                     | 30                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 557                                                                               |                                                                                   |                                                                                   | 543                                                                               |                                                                                   |                                                                                   | 388                                                                                 |                                                                                     |                                                                                     | 295                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 10.9                                                                              |                                                                                   |                                                                                   | 10.6                                                                              |                                                                                   |                                                                                   | 4.8                                                                                 |                                                                                     |                                                                                     | 6.7                                                                                 |                                                                                     |
| Confl. Peds. (#/hr)        |                                                                                   |                                                                                   | 1                                                                                 | 1                                                                                 |                                                                                   |                                                                                   | 4                                                                                 |                                                                                     | 1                                                                                   | 1                                                                                   |                                                                                     | 4                                                                                   |
| Peak Hour Factor           | 0.80                                                                              | 0.80                                                                              | 0.80                                                                              | 0.65                                                                              | 0.65                                                                              | 0.65                                                                              | 0.80                                                                              | 0.80                                                                                | 0.80                                                                                | 0.50                                                                                | 0.50                                                                                | 0.50                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 0                                                                                 | 392                                                                               | 0                                                                                 | 0                                                                                 | 296                                                                               | 0                                                                                 | 0                                                                                 | 98                                                                                  | 0                                                                                   | 0                                                                                   | 4                                                                                   | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Sign Control               |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Stop                                                                                |                                                                                     |                                                                                     | Stop                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 31.1%

ICU Level of Service A

Analysis Period (min) 15



Intersection

Int Delay, s/veh 2.3

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|

|                          |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations      |      | ↔    |      |      | ↔    |      |      | ↔    |      |      | ↔    |      |
| Traffic Vol, veh/h       | 2    | 271  | 40   | 7    | 185  | 0    | 59   | 1    | 18   | 1    | 0    | 1    |
| Future Vol, veh/h        | 2    | 271  | 40   | 7    | 185  | 0    | 59   | 1    | 18   | 1    | 0    | 1    |
| Conflicting Peds, #/hr   | 0    | 0    | 1    | 1    | 0    | 0    | 4    | 0    | 1    | 1    | 0    | 4    |
| Sign Control             | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -    | None |
| Storage Length           | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 80   | 80   | 80   | 65   | 65   | 65   | 80   | 80   | 80   | 50   | 50   | 50   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 3    | 339  | 50   | 11   | 285  | 0    | 74   | 1    | 23   | 2    | 0    | 2    |

| Major/Minor          | Major1 |   | Major2 |       | Minor1 |   | Minor2 |       |       |       |       |       |
|----------------------|--------|---|--------|-------|--------|---|--------|-------|-------|-------|-------|-------|
| Conflicting Flow All | 285    | 0 | 0      | 390   | 0      | 0 | 683    | 678   | 366   | 690   | 703   | 289   |
| Stage 1              | -      | - | -      | -     | -      | - | 371    | 371   | -     | 307   | 307   | -     |
| Stage 2              | -      | - | -      | -     | -      | - | 312    | 307   | -     | 383   | 396   | -     |
| Critical Hdwy        | 4.12   | - | -      | 4.12  | -      | - | 7.12   | 6.52  | 6.22  | 7.12  | 6.52  | 6.22  |
| Critical Hdwy Stg 1  | -      | - | -      | -     | -      | - | 6.12   | 5.52  | -     | 6.12  | 5.52  | -     |
| Critical Hdwy Stg 2  | -      | - | -      | -     | -      | - | 6.12   | 5.52  | -     | 6.12  | 5.52  | -     |
| Follow-up Hdwy       | 2.218  | - | -      | 2.218 | -      | - | 3.518  | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver   | 1277   | - | -      | 1169  | -      | - | 363    | 374   | 679   | 359   | 362   | 750   |
| Stage 1              | -      | - | -      | -     | -      | - | 649    | 620   | -     | 703   | 661   | -     |
| Stage 2              | -      | - | -      | -     | -      | - | 699    | 661   | -     | 640   | 604   | -     |
| Platoon blocked, %   | -      | - | -      | -     | -      | - | -      | -     | -     | -     | -     | -     |
| Mov Cap-1 Maneuver   | 1277   | - | -      | 1168  | -      | - | 356    | 368   | 678   | 342   | 357   | 747   |
| Mov Cap-2 Maneuver   | -      | - | -      | -     | -      | - | 356    | 368   | -     | 342   | 357   | -     |
| Stage 1              | -      | - | -      | -     | -      | - | 646    | 618   | -     | 701   | 654   | -     |
| Stage 2              | -      | - | -      | -     | -      | - | 687    | 654   | -     | 615   | 602   | -     |

| Approach             | EB  | WB  | NB   | SB   |
|----------------------|-----|-----|------|------|
| HCM Control Delay, s | 0.1 | 0.3 | 16.9 | 12.7 |
| HCM LOS              |     |     | C    | B    |

| Minor Lane/Major Mvmt | NBLn1 | EBL   | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 400   | 1277  | -   | -   | 1168  | -   | -   | 469   |
| HCM Lane V/C Ratio    | 0.244 | 0.002 | -   | -   | 0.009 | -   | -   | 0.009 |
| HCM Control Delay (s) | 16.9  | 7.8   | 0   | -   | 8.1   | 0   | -   | 12.7  |
| HCM Lane LOS          | C     | A     | A   | -   | A     | A   | -   | B     |
| HCM 95th %tile Q(veh) | 0.9   | 0     | -   | -   | 0     | -   | -   | 0     |



# Lanes, Volumes, Timings

## 1: Route 11 & Route 31

07/05/2022

|                            |  |  |  |  |  |  |   |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |  |  |                                                                                   |  |  |                                                                                   |  |  |  |  |  |                                                                                     |
| Traffic Volume (vph)       | 71                                                                                | 545                                                                               | 127                                                                               | 550                                                                               | 553                                                                               | 141                                                                               | 133                                                                                | 319                                                                                 | 643                                                                                 | 177                                                                                 | 281                                                                                 | 74                                                                                  |
| Future Volume (vph)        | 71                                                                                | 545                                                                               | 127                                                                               | 550                                                                               | 553                                                                               | 141                                                                               | 133                                                                                | 319                                                                                 | 643                                                                                 | 177                                                                                 | 281                                                                                 | 74                                                                                  |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                               | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 200                                                                               |                                                                                   | 310                                                                               | 495                                                                               |                                                                                   | 0                                                                                 | 175                                                                                |                                                                                     | 0                                                                                   | 350                                                                                 |                                                                                     | 0                                                                                   |
| Storage Lanes              | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                  |                                                                                     | 1                                                                                   | 1                                                                                   |                                                                                     | 0                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                 |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 1787                                                                              | 3474                                                                              | 0                                                                                 | 1787                                                                              | 3467                                                                              | 0                                                                                 | 1787                                                                               | 1881                                                                                | 1599                                                                                | 1787                                                                                | 3463                                                                                | 0                                                                                   |
| Flt Permitted              | 0.362                                                                             |                                                                                   |                                                                                   | 0.106                                                                             |                                                                                   |                                                                                   | 0.398                                                                              |                                                                                     |                                                                                     | 0.189                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)          | 681                                                                               | 3474                                                                              | 0                                                                                 | 199                                                                               | 3467                                                                              | 0                                                                                 | 749                                                                                | 1881                                                                                | 1599                                                                                | 356                                                                                 | 3463                                                                                | 0                                                                                   |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                    |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   | 19                                                                                |                                                                                   |                                                                                   | 21                                                                                |                                                                                   |                                                                                    |                                                                                     | 79                                                                                  |                                                                                     | 22                                                                                  |                                                                                     |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                    | 35                                                                                  |                                                                                     |                                                                                     | 35                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 385                                                                               |                                                                                   |                                                                                   | 703                                                                               |                                                                                   |                                                                                    | 612                                                                                 |                                                                                     |                                                                                     | 561                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 7.5                                                                               |                                                                                   |                                                                                   | 13.7                                                                              |                                                                                   |                                                                                    | 11.9                                                                                |                                                                                     |                                                                                     | 10.9                                                                                |                                                                                     |
| Peak Hour Factor           | 0.86                                                                              | 0.86                                                                              | 0.86                                                                              | 0.91                                                                              | 0.91                                                                              | 0.91                                                                              | 0.95                                                                               | 0.95                                                                                | 0.95                                                                                | 0.88                                                                                | 0.88                                                                                | 0.88                                                                                |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                 | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 83                                                                                | 782                                                                               | 0                                                                                 | 604                                                                               | 763                                                                               | 0                                                                                 | 140                                                                                | 336                                                                                 | 677                                                                                 | 201                                                                                 | 403                                                                                 | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                 | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                               | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                    | 12                                                                                  |                                                                                     |                                                                                     | 12                                                                                  |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                    | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                    | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                 |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                              | NA                                                                                  | pm+ov                                                                               | pm+pt                                                                               | NA                                                                                  |                                                                                     |
| Protected Phases           | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 3                                                                                  | 8                                                                                   | 1                                                                                   | 7                                                                                   | 4                                                                                   |                                                                                     |
| Permitted Phases           | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                  |                                                                                     | 8                                                                                   | 4                                                                                   |                                                                                     |                                                                                     |
| Detector Phase             | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 3                                                                                  | 8                                                                                   | 1                                                                                   | 7                                                                                   | 4                                                                                   |                                                                                     |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 4.0                                                                               | 12.0                                                                              |                                                                                   | 8.0                                                                               | 12.0                                                                              |                                                                                   | 4.0                                                                                | 8.0                                                                                 | 8.0                                                                                 | 4.0                                                                                 | 8.0                                                                                 |                                                                                     |
| Minimum Split (s)          | 9.5                                                                               | 18.0                                                                              |                                                                                   | 13.5                                                                              | 18.0                                                                              |                                                                                   | 10.0                                                                               | 14.0                                                                                | 13.5                                                                                | 9.5                                                                                 | 14.0                                                                                |                                                                                     |
| Total Split (s)            | 40.0                                                                              | 40.0                                                                              |                                                                                   | 40.0                                                                              | 40.0                                                                              |                                                                                   | 20.0                                                                               | 40.0                                                                                | 40.0                                                                                | 20.0                                                                                | 40.0                                                                                |                                                                                     |
| Total Split (%)            | 28.6%                                                                             | 28.6%                                                                             |                                                                                   | 28.6%                                                                             | 28.6%                                                                             |                                                                                   | 14.3%                                                                              | 28.6%                                                                               | 28.6%                                                                               | 14.3%                                                                               | 28.6%                                                                               |                                                                                     |
| Maximum Green (s)          | 34.5                                                                              | 34.0                                                                              |                                                                                   | 34.5                                                                              | 34.0                                                                              |                                                                                   | 14.0                                                                               | 34.0                                                                                | 34.5                                                                                | 14.5                                                                                | 34.0                                                                                |                                                                                     |
| Yellow Time (s)            | 3.5                                                                               | 3.5                                                                               |                                                                                   | 3.5                                                                               | 3.5                                                                               |                                                                                   | 3.5                                                                                | 3.5                                                                                 | 3.5                                                                                 | 3.0                                                                                 | 3.5                                                                                 |                                                                                     |
| All-Red Time (s)           | 2.0                                                                               | 2.5                                                                               |                                                                                   | 2.0                                                                               | 2.5                                                                               |                                                                                   | 2.5                                                                                | 2.5                                                                                 | 2.0                                                                                 | 2.5                                                                                 | 2.5                                                                                 |                                                                                     |
| Lost Time Adjust (s)       | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                                | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)        | 5.5                                                                               | 6.0                                                                               |                                                                                   | 5.5                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                                | 6.0                                                                                 | 5.5                                                                                 | 5.5                                                                                 | 6.0                                                                                 |                                                                                     |
| Lead/Lag                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                               | Lag                                                                                 | Lead                                                                                | Lead                                                                                | Lag                                                                                 |                                                                                     |
| Lead-Lag Optimize?         | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                                | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 |                                                                                     |
| Vehicle Extension (s)      | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                                | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |
| Recall Mode                | None                                                                              | Min                                                                               |                                                                                   | None                                                                              | Min                                                                               |                                                                                   | None                                                                               | None                                                                                | None                                                                                | None                                                                                | None                                                                                |                                                                                     |
| Act Effect Green (s)       | 41.7                                                                              | 32.3                                                                              |                                                                                   | 73.1                                                                              | 58.2                                                                              |                                                                                   | 39.8                                                                               | 27.7                                                                                | 68.5                                                                                | 43.5                                                                                | 29.1                                                                                |                                                                                     |
| Actuated g/C Ratio         | 0.32                                                                              | 0.25                                                                              |                                                                                   | 0.55                                                                              | 0.44                                                                              |                                                                                   | 0.30                                                                               | 0.21                                                                                | 0.52                                                                                | 0.33                                                                                | 0.22                                                                                |                                                                                     |
| v/c Ratio                  | 0.29                                                                              | 0.90                                                                              |                                                                                   | 1.14                                                                              | 0.49                                                                              |                                                                                   | 0.44                                                                               | 0.85                                                                                | 0.78                                                                                | 0.75                                                                                | 0.52                                                                                |                                                                                     |
| Control Delay              | 21.5                                                                              | 62.1                                                                              |                                                                                   | 121.2                                                                             | 28.0                                                                              |                                                                                   | 34.1                                                                               | 70.4                                                                                | 30.1                                                                                | 48.9                                                                                | 45.3                                                                                |                                                                                     |



# Lanes, Volumes, Timings

## 1: Route 11 & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Queue Delay             | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Delay             | 21.5                                                                              | 62.1                                                                              |                                                                                   | 121.2                                                                             | 28.0                                                                              |                                                                                   | 34.1                                                                              | 70.4                                                                                | 30.1                                                                                | 48.9                                                                                | 45.3                                                                                |                                                                                     |
| LOS                     | C                                                                                 | E                                                                                 |                                                                                   | F                                                                                 | C                                                                                 |                                                                                   | C                                                                                 | E                                                                                   | C                                                                                   | D                                                                                   | D                                                                                   |                                                                                     |
| Approach Delay          |                                                                                   | 58.3                                                                              |                                                                                   |                                                                                   | 69.2                                                                              |                                                                                   |                                                                                   | 42.3                                                                                |                                                                                     |                                                                                     | 46.5                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | E                                                                                 |                                                                                   |                                                                                   | E                                                                                 |                                                                                   |                                                                                   | D                                                                                   |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 33                                                                                | 341                                                                               |                                                                                   | ~577                                                                              | 240                                                                               |                                                                                   | 84                                                                                | 284                                                                                 | 423                                                                                 | 125                                                                                 | 155                                                                                 |                                                                                     |
| Queue Length 95th (ft)  | 61                                                                                | #434                                                                              |                                                                                   | #857                                                                              | 333                                                                               |                                                                                   | 136                                                                               | 399                                                                                 | 598                                                                                 | #188                                                                                | 204                                                                                 |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 305                                                                               |                                                                                   |                                                                                   | 623                                                                               |                                                                                   |                                                                                   | 532                                                                                 |                                                                                     |                                                                                     | 481                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 200                                                                               |                                                                                   |                                                                                   | 495                                                                               |                                                                                   |                                                                                   | 175                                                                               |                                                                                     |                                                                                     | 350                                                                                 |                                                                                     |                                                                                     |
| Base Capacity (vph)     | 640                                                                               | 915                                                                               |                                                                                   | 528                                                                               | 1542                                                                              |                                                                                   | 348                                                                               | 487                                                                                 | 868                                                                                 | 277                                                                                 | 914                                                                                 |                                                                                     |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       | 0.13                                                                              | 0.85                                                                              |                                                                                   | 1.14                                                                              | 0.49                                                                              |                                                                                   | 0.40                                                                              | 0.69                                                                                | 0.78                                                                                | 0.73                                                                                | 0.44                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 131.8

Natural Cycle: 100

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.14

Intersection Signal Delay: 55.6

Intersection LOS: E

Intersection Capacity Utilization 95.4%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

### Splits and Phases: 1: Route 11 & Route 31

|                                                                                        |                                                                                        |                                                                                        |                                                                                          |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
|  Ø1 |  Ø2 |  Ø3 |  Ø4 |
| 40 s                                                                                   | 40 s                                                                                   | 20 s                                                                                   | 40 s                                                                                     |
|  Ø5 |  Ø6 |  Ø7 |  Ø8 |
| 40 s                                                                                   | 40 s                                                                                   | 20 s                                                                                   | 40 s                                                                                     |



# Lanes, Volumes, Timings

## 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |                                                                                   |  |                                                                                   |  |  |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |  |  |
| Traffic Volume (vph)       | 0                                                                                 | 1098                                                                              | 267                                                                               | 323                                                                               | 1057                                                                              | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   | 158                                                                                 | 0                                                                                   | 187                                                                                 |
| Future Volume (vph)        | 0                                                                                 | 1098                                                                              | 267                                                                               | 323                                                                               | 1057                                                                              | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   | 158                                                                                 | 0                                                                                   | 187                                                                                 |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                               | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 0                                                                                 |                                                                                   | 0                                                                                 | 150                                                                               |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                    | 0                                                                                   | 0                                                                                   |                                                                                     | 125                                                                                 |
| Storage Lanes              | 0                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                    | 0                                                                                   | 0                                                                                   |                                                                                     | 1                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                    |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 0                                                                                 | 3437                                                                              | 0                                                                                 | 1770                                                                              | 3539                                                                              | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 1752                                                                                | 1568                                                                                |
| Flt Permitted              |                                                                                   |                                                                                   |                                                                                   | 0.069                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 0.950                                                                               |                                                                                     |
| Satd. Flow (perm)          | 0                                                                                 | 3437                                                                              | 0                                                                                 | 129                                                                               | 3539                                                                              | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 1752                                                                                | 1568                                                                                |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                    | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   | 33                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 161                                                                                 |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 40                                                                                 |                                                                                     |                                                                                     | 40                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 703                                                                               |                                                                                   |                                                                                   | 360                                                                               |                                                                                   |                                                                                   | 622                                                                                |                                                                                     |                                                                                     | 505                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 13.7                                                                              |                                                                                   |                                                                                   | 7.0                                                                               |                                                                                   |                                                                                   | 10.6                                                                               |                                                                                     |                                                                                     | 8.6                                                                                 |                                                                                     |
| Confl. Peds. (#/hr)        | 1                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Peak Hour Factor           | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.90                                                                              | 0.90                                                                               | 0.90                                                                                | 0.79                                                                                | 0.79                                                                                | 0.79                                                                                |
| Heavy Vehicles (%)         | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                 | 2%                                                                                  | 3%                                                                                  | 3%                                                                                  | 3%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 0                                                                                 | 1468                                                                              | 0                                                                                 | 347                                                                               | 1137                                                                              | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 200                                                                                 | 237                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                 | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                               | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 0                                                                                  |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                  |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                 |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                    | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  |                                                                                   | NA                                                                                |                                                                                   | pm+pt                                                                             | NA                                                                                |                                                                                   |                                                                                   |                                                                                    |                                                                                     | Perm                                                                                | NA                                                                                  | Perm                                                                                |
| Protected Phases           |                                                                                   | 2                                                                                 |                                                                                   | 1 3                                                                               | 6                                                                                 |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |
| Permitted Phases           |                                                                                   |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     | 4                                                                                   |                                                                                     | 4                                                                                   |
| Detector Phase             |                                                                                   | 2                                                                                 |                                                                                   | 1 3                                                                               | 6                                                                                 |                                                                                   |                                                                                   |                                                                                    |                                                                                     | 4                                                                                   | 4                                                                                   | 4                                                                                   |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        |                                                                                   | 12.0                                                                              |                                                                                   |                                                                                   | 12.0                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 |
| Minimum Split (s)          |                                                                                   | 17.0                                                                              |                                                                                   |                                                                                   | 17.0                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     | 9.0                                                                                 | 9.0                                                                                 | 9.0                                                                                 |
| Total Split (s)            |                                                                                   | 50.0                                                                              |                                                                                   |                                                                                   | 91.0                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     | 19.0                                                                                | 19.0                                                                                | 19.0                                                                                |
| Total Split (%)            |                                                                                   | 45.5%                                                                             |                                                                                   |                                                                                   | 82.7%                                                                             |                                                                                   |                                                                                   |                                                                                    |                                                                                     | 17.3%                                                                               | 17.3%                                                                               | 17.3%                                                                               |
| Maximum Green (s)          |                                                                                   | 45.0                                                                              |                                                                                   |                                                                                   | 86.0                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     | 14.0                                                                                | 14.0                                                                                | 14.0                                                                                |
| Yellow Time (s)            |                                                                                   | 3.5                                                                               |                                                                                   |                                                                                   | 3.5                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 |
| All-Red Time (s)           |                                                                                   | 1.5                                                                               |                                                                                   |                                                                                   | 1.5                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     | 1.0                                                                                 | 1.0                                                                                 | 1.0                                                                                 |
| Lost Time Adjust (s)       |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |
| Total Lost Time (s)        |                                                                                   | 5.0                                                                               |                                                                                   |                                                                                   | 5.0                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |
| Lead/Lag                   |                                                                                   | Lag                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?         |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Vehicle Extension (s)      |                                                                                   | 3.0                                                                               |                                                                                   |                                                                                   | 3.0                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |
| Recall Mode                |                                                                                   | C-Min                                                                             |                                                                                   |                                                                                   | C-Min                                                                             |                                                                                   |                                                                                   |                                                                                    |                                                                                     | None                                                                                | None                                                                                | None                                                                                |
| Act Effect Green (s)       |                                                                                   | 48.4                                                                              |                                                                                   | 82.9                                                                              | 82.9                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 17.1                                                                                | 17.1                                                                                |
| Actuated g/C Ratio         |                                                                                   | 0.44                                                                              |                                                                                   | 0.75                                                                              | 0.75                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 0.16                                                                                | 0.16                                                                                |
| v/c Ratio                  |                                                                                   | 0.96                                                                              |                                                                                   | 0.75                                                                              | 0.43                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 0.74                                                                                | 0.63                                                                                |



# Lanes, Volumes, Timings

## 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

07/05/2022

| Lane Group                 | Ø1   | Ø3   |
|----------------------------|------|------|
| Lane Configurations        |      |      |
| Traffic Volume (vph)       |      |      |
| Future Volume (vph)        |      |      |
| Ideal Flow (vphpl)         |      |      |
| Storage Length (ft)        |      |      |
| Storage Lanes              |      |      |
| Taper Length (ft)          |      |      |
| Satd. Flow (prot)          |      |      |
| Flt Permitted              |      |      |
| Satd. Flow (perm)          |      |      |
| Right Turn on Red          |      |      |
| Satd. Flow (RTOR)          |      |      |
| Link Speed (mph)           |      |      |
| Link Distance (ft)         |      |      |
| Travel Time (s)            |      |      |
| Confl. Peds. (#/hr)        |      |      |
| Peak Hour Factor           |      |      |
| Heavy Vehicles (%)         |      |      |
| Shared Lane Traffic (%)    |      |      |
| Lane Group Flow (vph)      |      |      |
| Enter Blocked Intersection |      |      |
| Lane Alignment             |      |      |
| Median Width(ft)           |      |      |
| Link Offset(ft)            |      |      |
| Crosswalk Width(ft)        |      |      |
| Two way Left Turn Lane     |      |      |
| Headway Factor             |      |      |
| Turning Speed (mph)        |      |      |
| Turn Type                  |      |      |
| Protected Phases           | 1    | 3    |
| Permitted Phases           |      |      |
| Detector Phase             |      |      |
| Switch Phase               |      |      |
| Minimum Initial (s)        | 4.0  | 4.0  |
| Minimum Split (s)          | 9.0  | 9.0  |
| Total Split (s)            | 13.0 | 28.0 |
| Total Split (%)            | 12%  | 25%  |
| Maximum Green (s)          | 8.0  | 23.0 |
| Yellow Time (s)            | 3.5  | 3.5  |
| All-Red Time (s)           | 1.5  | 1.5  |
| Lost Time Adjust (s)       |      |      |
| Total Lost Time (s)        |      |      |
| Lead/Lag                   | Lead |      |
| Lead-Lag Optimize?         | Yes  |      |
| Vehicle Extension (s)      | 3.0  | 3.0  |
| Recall Mode                | None | None |
| Act Effect Green (s)       |      |      |
| Actuated g/C Ratio         |      |      |
| v/c Ratio                  |      |      |



# Lanes, Volumes, Timings

## 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Control Delay           |                                                                                   | 45.8                                                                              |                                                                                   | 29.7                                                                              | 4.9                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 61.7                                                                                | 23.0                                                                                |
| Queue Delay             |                                                                                   | 25.0                                                                              |                                                                                   | 23.8                                                                              | 0.9                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 0.2                                                                                 | 0.0                                                                                 |
| Total Delay             |                                                                                   | 70.8                                                                              |                                                                                   | 53.4                                                                              | 5.8                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 61.8                                                                                | 23.0                                                                                |
| LOS                     |                                                                                   | E                                                                                 |                                                                                   | D                                                                                 | A                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | E                                                                                   | C                                                                                   |
| Approach Delay          |                                                                                   | 70.8                                                                              |                                                                                   |                                                                                   | 17.0                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 40.8                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | E                                                                                 |                                                                                   |                                                                                   | B                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Queue Length 50th (ft)  |                                                                                   | ~578                                                                              |                                                                                   | 97                                                                                | 167                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 132                                                                                 | 47                                                                                  |
| Queue Length 95th (ft)  |                                                                                   | #718                                                                              |                                                                                   | m230                                                                              | 20                                                                                |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | #217                                                                                | 100                                                                                 |
| Internal Link Dist (ft) |                                                                                   | 623                                                                               |                                                                                   |                                                                                   | 280                                                                               |                                                                                   |                                                                                    | 542                                                                                 |                                                                                     |                                                                                     | 425                                                                                 |                                                                                     |
| Turn Bay Length (ft)    |                                                                                   |                                                                                   |                                                                                   | 150                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 125                                                                                 |
| Base Capacity (vph)     |                                                                                   | 1531                                                                              |                                                                                   | 590                                                                               | 2766                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 271                                                                                 | 379                                                                                 |
| Starvation Cap Reductn  |                                                                                   | 0                                                                                 |                                                                                   | 241                                                                               | 1242                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 0                                                                                   | 0                                                                                   |
| Spillback Cap Reductn   |                                                                                   | 141                                                                               |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 2                                                                                   | 0                                                                                   |
| Storage Cap Reductn     |                                                                                   | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 0                                                                                   | 0                                                                                   |
| Reduced v/c Ratio       |                                                                                   | 1.06                                                                              |                                                                                   | 0.99                                                                              | 0.75                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 0.74                                                                                | 0.63                                                                                |

### Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 8 (7%), Referenced to phase 2:EBT and 6:WBTL, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 43.3

Intersection LOS: D

Intersection Capacity Utilization 78.0%

ICU Level of Service D

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

### Splits and Phases: 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

|                                                                                            |                                                                                            |                                                                                        |                                                                                          |
|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
|  Ø1     |  Ø2 (R) |  Ø3 |  Ø4 |
| 13 s                                                                                       | 50 s                                                                                       | 28 s                                                                                   | 19 s                                                                                     |
|  Ø6 (R) |                                                                                            |                                                                                        |                                                                                          |
| 91 s                                                                                       |                                                                                            |                                                                                        |                                                                                          |



## Lanes, Volumes, Timings

### 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

07/05/2022

---

| Lane Group | Ø1 | Ø3 |
|------------|----|----|
|------------|----|----|

---

Control Delay

Queue Delay

Total Delay

LOS

Approach Delay

Approach LOS

Queue Length 50th (ft)

Queue Length 95th (ft)

Internal Link Dist (ft)

Turn Bay Length (ft)

Base Capacity (vph)

Starvation Cap Reductn

Spillback Cap Reductn

Storage Cap Reductn

Reduced v/c Ratio

Intersection Summary

---



# Lanes, Volumes, Timings

## 3: I-81 NB Offramp/Pardee Road & Route 31

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |  |  |                                                                                   |                                                                                   |  |                                                                                   |  |  |  |                                                                                     |                                                                                     |  |
| Traffic Volume (vph)       | 281                                                                               | 975                                                                               | 0                                                                                 | 0                                                                                 | 1051                                                                              | 215                                                                               | 208                                                                               | 50                                                                                  | 341                                                                                 | 0                                                                                   | 0                                                                                   | 121                                                                                 |
| Future Volume (vph)        | 281                                                                               | 975                                                                               | 0                                                                                 | 0                                                                                 | 1051                                                                              | 215                                                                               | 208                                                                               | 50                                                                                  | 341                                                                                 | 0                                                                                   | 0                                                                                   | 121                                                                                 |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 85                                                                                |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 310                                                                               |                                                                                     | 100                                                                                 | 0                                                                                   |                                                                                     | 0                                                                                   |
| Storage Lanes              | 1                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                     | 1                                                                                   | 0                                                                                   |                                                                                     | 1                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 1787                                                                              | 3574                                                                              | 0                                                                                 | 0                                                                                 | 3485                                                                              | 0                                                                                 | 1787                                                                              | 1881                                                                                | 1599                                                                                | 0                                                                                   | 0                                                                                   | 1627                                                                                |
| Flt Permitted              | 0.074                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.950                                                                             |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Satd. Flow (perm)          | 139                                                                               | 3574                                                                              | 0                                                                                 | 0                                                                                 | 3485                                                                              | 0                                                                                 | 1787                                                                              | 1881                                                                                | 1599                                                                                | 0                                                                                   | 0                                                                                   | 1627                                                                                |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 21                                                                                |                                                                                   |                                                                                   |                                                                                     | 82                                                                                  |                                                                                     |                                                                                     | 268                                                                                 |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 40                                                                                  |                                                                                     |                                                                                     | 55                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 360                                                                               |                                                                                   |                                                                                   | 1082                                                                              |                                                                                   |                                                                                   | 639                                                                                 |                                                                                     |                                                                                     | 500                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 7.0                                                                               |                                                                                   |                                                                                   | 21.1                                                                              |                                                                                   |                                                                                   | 10.9                                                                                |                                                                                     |                                                                                     | 6.2                                                                                 |                                                                                     |
| Peak Hour Factor           | 0.91                                                                              | 0.91                                                                              | 0.91                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                                | 0.93                                                                                | 0.87                                                                                | 0.87                                                                                | 0.87                                                                                |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 309                                                                               | 1071                                                                              | 0                                                                                 | 0                                                                                 | 1361                                                                              | 0                                                                                 | 224                                                                               | 54                                                                                  | 367                                                                                 | 0                                                                                   | 0                                                                                   | 139                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                  |                                                                                     |                                                                                     | 12                                                                                  |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | pm+pt                                                                             | NA                                                                                |                                                                                   |                                                                                   | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                  | Perm                                                                                |                                                                                     |                                                                                     | Over                                                                                |
| Protected Phases           | 5                                                                                 | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     | 5                                                                                   |
| Permitted Phases           | 2                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 8                                                                                 |                                                                                     | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Detector Phase             | 5                                                                                 | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   | 8                                                                                 | 8                                                                                   | 8                                                                                   |                                                                                     |                                                                                     | 5                                                                                   |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 4.0                                                                               | 12.0                                                                              |                                                                                   |                                                                                   | 12.0                                                                              |                                                                                   | 6.0                                                                               | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |                                                                                     | 4.0                                                                                 |
| Minimum Split (s)          | 9.0                                                                               | 17.5                                                                              |                                                                                   |                                                                                   | 17.5                                                                              |                                                                                   | 12.0                                                                              | 12.0                                                                                | 12.0                                                                                |                                                                                     |                                                                                     | 9.0                                                                                 |
| Total Split (s)            | 31.0                                                                              | 66.0                                                                              |                                                                                   |                                                                                   | 35.0                                                                              |                                                                                   | 44.0                                                                              | 44.0                                                                                | 44.0                                                                                |                                                                                     |                                                                                     | 31.0                                                                                |
| Total Split (%)            | 28.2%                                                                             | 60.0%                                                                             |                                                                                   |                                                                                   | 31.8%                                                                             |                                                                                   | 40.0%                                                                             | 40.0%                                                                               | 40.0%                                                                               |                                                                                     |                                                                                     | 28.2%                                                                               |
| Maximum Green (s)          | 26.0                                                                              | 60.5                                                                              |                                                                                   |                                                                                   | 29.5                                                                              |                                                                                   | 38.0                                                                              | 38.0                                                                                | 38.0                                                                                |                                                                                     |                                                                                     | 26.0                                                                                |
| Yellow Time (s)            | 3.0                                                                               | 3.5                                                                               |                                                                                   |                                                                                   | 3.5                                                                               |                                                                                   | 4.0                                                                               | 4.0                                                                                 | 4.0                                                                                 |                                                                                     |                                                                                     | 3.0                                                                                 |
| All-Red Time (s)           | 2.0                                                                               | 2.0                                                                               |                                                                                   |                                                                                   | 2.0                                                                               |                                                                                   | 2.0                                                                               | 2.0                                                                                 | 2.0                                                                                 |                                                                                     |                                                                                     | 2.0                                                                                 |
| Lost Time Adjust (s)       | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |                                                                                     | 0.0                                                                                 |
| Total Lost Time (s)        | 5.0                                                                               | 5.5                                                                               |                                                                                   |                                                                                   | 5.5                                                                               |                                                                                   | 6.0                                                                               | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |                                                                                     | 5.0                                                                                 |
| Lead/Lag                   | Lead                                                                              |                                                                                   |                                                                                   |                                                                                   | Lag                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | Lead                                                                                |
| Lead-Lag Optimize?         | Yes                                                                               |                                                                                   |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | Yes                                                                                 |
| Vehicle Extension (s)      | 3.0                                                                               | 3.0                                                                               |                                                                                   |                                                                                   | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |                                                                                     | 3.0                                                                                 |
| Recall Mode                | None                                                                              | C-Min                                                                             |                                                                                   |                                                                                   | C-Min                                                                             |                                                                                   | None                                                                              | None                                                                                | None                                                                                |                                                                                     |                                                                                     | None                                                                                |
| Act Effct Green (s)        | 72.3                                                                              | 71.8                                                                              |                                                                                   |                                                                                   | 49.4                                                                              |                                                                                   | 26.7                                                                              | 26.7                                                                                | 26.7                                                                                |                                                                                     |                                                                                     | 17.4                                                                                |
| Actuated g/C Ratio         | 0.66                                                                              | 0.65                                                                              |                                                                                   |                                                                                   | 0.45                                                                              |                                                                                   | 0.24                                                                              | 0.24                                                                                | 0.24                                                                                |                                                                                     |                                                                                     | 0.16                                                                                |
| v/c Ratio                  | 0.88                                                                              | 0.46                                                                              |                                                                                   |                                                                                   | 0.86                                                                              |                                                                                   | 0.52                                                                              | 0.12                                                                                | 0.82                                                                                |                                                                                     |                                                                                     | 0.29                                                                                |
| Control Delay              | 41.5                                                                              | 22.4                                                                              |                                                                                   |                                                                                   | 36.6                                                                              |                                                                                   | 38.9                                                                              | 29.7                                                                                | 44.1                                                                                |                                                                                     |                                                                                     | 1.5                                                                                 |



# Lanes, Volumes, Timings

## 3: I-81 NB Offramp/Pardee Road & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Queue Delay             | 0.9                                                                               | 3.3                                                                               |                                                                                   |                                                                                   | 0.2                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |                                                                                     | 0.0                                                                                 |
| Total Delay             | 42.4                                                                              | 25.7                                                                              |                                                                                   |                                                                                   | 36.8                                                                              |                                                                                   | 38.9                                                                              | 29.7                                                                                | 44.1                                                                                |                                                                                     |                                                                                     | 1.5                                                                                 |
| LOS                     | D                                                                                 | C                                                                                 |                                                                                   |                                                                                   | D                                                                                 |                                                                                   | D                                                                                 | C                                                                                   | D                                                                                   |                                                                                     |                                                                                     | A                                                                                   |
| Approach Delay          |                                                                                   | 29.4                                                                              |                                                                                   |                                                                                   | 36.8                                                                              |                                                                                   |                                                                                   | 41.1                                                                                |                                                                                     |                                                                                     | 1.5                                                                                 |                                                                                     |
| Approach LOS            |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | D                                                                                   |                                                                                     |                                                                                     | A                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 192                                                                               | 308                                                                               |                                                                                   |                                                                                   | 440                                                                               |                                                                                   | 137                                                                               | 30                                                                                  | 193                                                                                 |                                                                                     |                                                                                     | 0                                                                                   |
| Queue Length 95th (ft)  | m211                                                                              | m327                                                                              |                                                                                   |                                                                                   | #825                                                                              |                                                                                   | 187                                                                               | 55                                                                                  | 270                                                                                 |                                                                                     |                                                                                     | 0                                                                                   |
| Internal Link Dist (ft) |                                                                                   | 280                                                                               |                                                                                   |                                                                                   | 1002                                                                              |                                                                                   |                                                                                   | 559                                                                                 |                                                                                     |                                                                                     | 420                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 85                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 310                                                                               |                                                                                     | 100                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| Base Capacity (vph)     | 483                                                                               | 2331                                                                              |                                                                                   |                                                                                   | 1575                                                                              |                                                                                   | 617                                                                               | 649                                                                                 | 606                                                                                 |                                                                                     |                                                                                     | 591                                                                                 |
| Starvation Cap Reductn  | 44                                                                                | 1133                                                                              |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 18                                                                                |                                                                                   | 5                                                                                 | 0                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 1                                                                                   |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |
| Reduced v/c Ratio       | 0.70                                                                              | 0.89                                                                              |                                                                                   |                                                                                   | 0.87                                                                              |                                                                                   | 0.37                                                                              | 0.08                                                                                | 0.61                                                                                |                                                                                     |                                                                                     | 0.24                                                                                |

### Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 87 (79%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 33.3

Intersection LOS: C

Intersection Capacity Utilization 76.8%

ICU Level of Service D

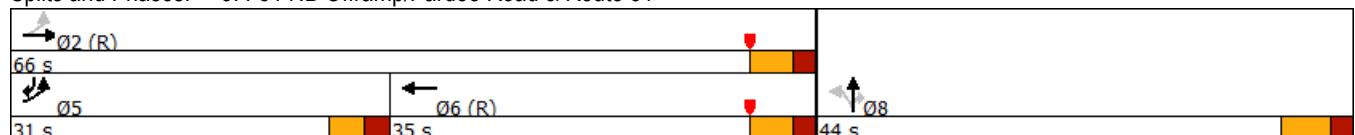
Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: I-81 NB Offramp/Pardee Road & Route 31





# Lanes, Volumes, Timings

## 4: Route 31 & Lakeshore Road

07/05/2022

|                            |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | WBT                                                                               | WBR                                                                               | SBL                                                                               | SBR                                                                               |
| Lane Configurations        |  |  |  |                                                                                   |  |                                                                                   |
| Traffic Volume (vph)       | 473                                                                               | 843                                                                               | 803                                                                               | 0                                                                                 | 0                                                                                 | 463                                                                               |
| Future Volume (vph)        | 473                                                                               | 843                                                                               | 803                                                                               | 0                                                                                 | 0                                                                                 | 463                                                                               |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Storage Length (ft)        | 225                                                                               |                                                                                   |                                                                                   | 0                                                                                 | 0                                                                                 | 0                                                                                 |
| Storage Lanes              | 1                                                                                 |                                                                                   |                                                                                   | 0                                                                                 | 1                                                                                 | 0                                                                                 |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |
| Satd. Flow (prot)          | 1787                                                                              | 3574                                                                              | 1881                                                                              | 0                                                                                 | 1627                                                                              | 0                                                                                 |
| Flt Permitted              | 0.950                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Satd. Flow (perm)          | 1787                                                                              | 3574                                                                              | 1881                                                                              | 0                                                                                 | 1627                                                                              | 0                                                                                 |
| Link Speed (mph)           |                                                                                   | 35                                                                                | 35                                                                                |                                                                                   | 35                                                                                |                                                                                   |
| Link Distance (ft)         |                                                                                   | 1082                                                                              | 959                                                                               |                                                                                   | 962                                                                               |                                                                                   |
| Travel Time (s)            |                                                                                   | 21.1                                                                              | 18.7                                                                              |                                                                                   | 18.7                                                                              |                                                                                   |
| Peak Hour Factor           | 0.93                                                                              | 0.93                                                                              | 0.87                                                                              | 0.87                                                                              | 0.93                                                                              | 0.93                                                                              |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)      | 509                                                                               | 906                                                                               | 923                                                                               | 0                                                                                 | 498                                                                               | 0                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment             | Left                                                                              | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Right                                                                             |
| Median Width(ft)           |                                                                                   | 12                                                                                | 12                                                                                |                                                                                   | 12                                                                                |                                                                                   |
| Link Offset(ft)            |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 |                                                                                   |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                | 16                                                                                |                                                                                   | 16                                                                                |                                                                                   |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (mph)        | 15                                                                                |                                                                                   |                                                                                   | 9                                                                                 | 15                                                                                | 9                                                                                 |
| Sign Control               |                                                                                   | Free                                                                              | Free                                                                              |                                                                                   | Stop                                                                              |                                                                                   |

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 107.1%

ICU Level of Service G

Analysis Period (min) 15



HCM 6th TWSC  
4: Route 31 & Lakeshore Road

07/05/2022

Intersection

| Int Delay, s/veh         | 52.3 |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Movement                 | EBL  | EBT  | WBT  | WBR  | SBL  | SBR  |
| Lane Configurations      | ↰    | ↰↰   | ↰    |      | ↰    |      |
| Traffic Vol, veh/h       | 473  | 843  | 803  | 0    | 0    | 463  |
| Future Vol, veh/h        | 473  | 843  | 803  | 0    | 0    | 463  |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | 225  | -    | -    | -    | 0    | -    |
| Veh in Median Storage, # | -    | 0    | 0    | -    | 0    | -    |
| Grade, %                 | -    | 0    | 0    | -    | 0    | -    |
| Peak Hour Factor         | 93   | 93   | 87   | 87   | 93   | 93   |
| Heavy Vehicles, %        | 1    | 1    | 1    | 1    | 1    | 1    |
| Mvmt Flow                | 509  | 906  | 923  | 0    | 0    | 498  |

| Major/Minor          | Major1 | Major2 | Minor2          |
|----------------------|--------|--------|-----------------|
| Conflicting Flow All | 923    | 0      | 0 2394 923      |
| Stage 1              | -      | -      | - 923 -         |
| Stage 2              | -      | -      | - 1471 -        |
| Critical Hdwy        | 4.115  | -      | - 6.615 6.215   |
| Critical Hdwy Stg 1  | -      | -      | - 5.415 -       |
| Critical Hdwy Stg 2  | -      | -      | - 5.815 -       |
| Follow-up Hdwy       | 2.2095 | -      | - 3.5095 3.3095 |
| Pot Cap-1 Maneuver   | 743    | -      | - 33 ~ 328      |
| Stage 1              | -      | -      | - 388 -         |
| Stage 2              | -      | -      | - 179 -         |
| Platoon blocked, %   | -      | -      | -               |
| Mov Cap-1 Maneuver   | 743    | -      | - 10 ~ 328      |
| Mov Cap-2 Maneuver   | -      | -      | - 10 -          |
| Stage 1              | -      | -      | - 122 -         |
| Stage 2              | -      | -      | - 179 -         |

| Approach             | EB  | WB | SB    |
|----------------------|-----|----|-------|
| HCM Control Delay, s | 7.1 | 0  | 277.6 |
| HCM LOS              |     |    | F     |

| Minor Lane/Major Mvmt | EBL   | EBT | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-----|-------|
| Capacity (veh/h)      | 743   | -   | -   | -   | 328   |
| HCM Lane V/C Ratio    | 0.685 | -   | -   | -   | 1.518 |
| HCM Control Delay (s) | 19.7  | -   | -   | -   | 277.6 |
| HCM Lane LOS          | C     | -   | -   | -   | F     |
| HCM 95th %tile Q(veh) | 5.5   | -   | -   | -   | 27.9  |

Notes

~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon



Lanes, Volumes, Timings  
5: South Bay Road & Route 31

07/05/2022

|                            |  |  |  |  |  |  |   |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |  |  |                                                                                   |  |  |                                                                                   |  |  |                                                                                     |  |  |                                                                                     |
| Traffic Volume (vph)       | 35                                                                                | 434                                                                               | 67                                                                                | 180                                                                               | 447                                                                               | 21                                                                                | 69                                                                                  | 144                                                                                 | 153                                                                                 | 13                                                                                  | 163                                                                                 | 59                                                                                  |
| Future Volume (vph)        | 35                                                                                | 434                                                                               | 67                                                                                | 180                                                                               | 447                                                                               | 21                                                                                | 69                                                                                  | 144                                                                                 | 153                                                                                 | 13                                                                                  | 163                                                                                 | 59                                                                                  |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 225                                                                               |                                                                                   | 0                                                                                 | 225                                                                               |                                                                                   | 0                                                                                 | 280                                                                                 |                                                                                     | 0                                                                                   | 225                                                                                 |                                                                                     | 0                                                                                   |
| Storage Lanes              | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                   |                                                                                     | 0                                                                                   | 1                                                                                   |                                                                                     | 0                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                  |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 1787                                                                              | 1844                                                                              | 0                                                                                 | 1787                                                                              | 1868                                                                              | 0                                                                                 | 1752                                                                                | 1682                                                                                | 0                                                                                   | 1752                                                                                | 1759                                                                                | 0                                                                                   |
| Flt Permitted              | 0.305                                                                             |                                                                                   |                                                                                   | 0.163                                                                             |                                                                                   |                                                                                   | 0.316                                                                               |                                                                                     |                                                                                     | 0.433                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)          | 574                                                                               | 1844                                                                              | 0                                                                                 | 307                                                                               | 1868                                                                              | 0                                                                                 | 581                                                                                 | 1682                                                                                | 0                                                                                   | 798                                                                                 | 1759                                                                                | 0                                                                                   |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                     |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                 |                                                                                   |                                                                                     | 47                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Link Speed (mph)           |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 55                                                                                |                                                                                   |                                                                                     | 45                                                                                  |                                                                                     |                                                                                     | 45                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 788                                                                               |                                                                                   |                                                                                   | 825                                                                               |                                                                                   |                                                                                     | 794                                                                                 |                                                                                     |                                                                                     | 652                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 11.9                                                                              |                                                                                   |                                                                                   | 10.2                                                                              |                                                                                   |                                                                                     | 12.0                                                                                |                                                                                     |                                                                                     | 9.9                                                                                 |                                                                                     |
| Confl. Peds. (#/hr)        |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 3                                                                                   |                                                                                     | 2                                                                                   | 2                                                                                   |                                                                                     | 3                                                                                   |
| Peak Hour Factor           | 0.89                                                                              | 0.89                                                                              | 0.89                                                                              | 1.00                                                                              | 0.86                                                                              | 0.86                                                                              | 0.80                                                                                | 0.88                                                                                | 0.88                                                                                | 0.73                                                                                | 0.73                                                                                | 0.73                                                                                |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 3%                                                                                  | 3%                                                                                  | 3%                                                                                  | 3%                                                                                  | 3%                                                                                  | 3%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 39                                                                                | 563                                                                               | 0                                                                                 | 180                                                                               | 544                                                                               | 0                                                                                 | 86                                                                                  | 338                                                                                 | 0                                                                                   | 18                                                                                  | 304                                                                                 | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                                | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                     | 12                                                                                  |                                                                                     |                                                                                     | 12                                                                                  |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                     | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                     | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                  |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                               | NA                                                                                  |                                                                                     | pm+pt                                                                               | NA                                                                                  |                                                                                     |
| Protected Phases           | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 3                                                                                   | 8                                                                                   |                                                                                     | 7                                                                                   | 4                                                                                   |                                                                                     |
| Permitted Phases           | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                   |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |                                                                                     |
| Detector Phase             | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 3                                                                                   | 8                                                                                   |                                                                                     | 7                                                                                   | 4                                                                                   |                                                                                     |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 6.0                                                                               | 15.0                                                                              |                                                                                   | 6.0                                                                               | 15.0                                                                              |                                                                                   | 6.0                                                                                 | 10.0                                                                                |                                                                                     | 6.0                                                                                 | 10.0                                                                                |                                                                                     |
| Minimum Split (s)          | 10.5                                                                              | 22.8                                                                              |                                                                                   | 10.5                                                                              | 22.8                                                                              |                                                                                   | 10.5                                                                                | 16.8                                                                                |                                                                                     | 10.5                                                                                | 16.8                                                                                |                                                                                     |
| Total Split (s)            | 15.0                                                                              | 45.0                                                                              |                                                                                   | 15.0                                                                              | 45.0                                                                              |                                                                                   | 15.0                                                                                | 35.0                                                                                |                                                                                     | 15.0                                                                                | 35.0                                                                                |                                                                                     |
| Total Split (%)            | 13.6%                                                                             | 40.9%                                                                             |                                                                                   | 13.6%                                                                             | 40.9%                                                                             |                                                                                   | 13.6%                                                                               | 31.8%                                                                               |                                                                                     | 13.6%                                                                               | 31.8%                                                                               |                                                                                     |
| Maximum Green (s)          | 10.5                                                                              | 37.2                                                                              |                                                                                   | 10.5                                                                              | 37.2                                                                              |                                                                                   | 10.5                                                                                | 28.2                                                                                |                                                                                     | 10.5                                                                                | 28.2                                                                                |                                                                                     |
| Yellow Time (s)            | 3.5                                                                               | 4.9                                                                               |                                                                                   | 3.5                                                                               | 4.9                                                                               |                                                                                   | 3.5                                                                                 | 4.9                                                                                 |                                                                                     | 3.5                                                                                 | 4.9                                                                                 |                                                                                     |
| All-Red Time (s)           | 1.0                                                                               | 2.9                                                                               |                                                                                   | 1.0                                                                               | 2.9                                                                               |                                                                                   | 1.0                                                                                 | 1.9                                                                                 |                                                                                     | 1.0                                                                                 | 1.9                                                                                 |                                                                                     |
| Lost Time Adjust (s)       | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                                 | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)        | 4.5                                                                               | 7.8                                                                               |                                                                                   | 4.5                                                                               | 7.8                                                                               |                                                                                   | 4.5                                                                                 | 6.8                                                                                 |                                                                                     | 4.5                                                                                 | 6.8                                                                                 |                                                                                     |
| Lead/Lag                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                                | Lag                                                                                 |                                                                                     | Lead                                                                                | Lag                                                                                 |                                                                                     |
| Lead-Lag Optimize?         | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                                 | Yes                                                                                 |                                                                                     | Yes                                                                                 | Yes                                                                                 |                                                                                     |
| Vehicle Extension (s)      | 3.0                                                                               | 6.0                                                                               |                                                                                   | 3.0                                                                               | 6.0                                                                               |                                                                                   | 3.0                                                                                 | 6.0                                                                                 |                                                                                     | 3.0                                                                                 | 6.0                                                                                 |                                                                                     |
| Minimum Gap (s)            | 3.0                                                                               | 2.0                                                                               |                                                                                   | 3.0                                                                               | 2.0                                                                               |                                                                                   | 3.0                                                                                 | 2.0                                                                                 |                                                                                     | 3.0                                                                                 | 2.0                                                                                 |                                                                                     |
| Time Before Reduce (s)     | 0.0                                                                               | 10.0                                                                              |                                                                                   | 0.0                                                                               | 10.0                                                                              |                                                                                   | 0.0                                                                                 | 10.0                                                                                |                                                                                     | 0.0                                                                                 | 10.0                                                                                |                                                                                     |
| Time To Reduce (s)         | 0.0                                                                               | 15.0                                                                              |                                                                                   | 0.0                                                                               | 15.0                                                                              |                                                                                   | 0.0                                                                                 | 15.0                                                                                |                                                                                     | 0.0                                                                                 | 15.0                                                                                |                                                                                     |
| Recall Mode                | None                                                                              | Min                                                                               |                                                                                   | None                                                                              | Min                                                                               |                                                                                   | None                                                                                | None                                                                                |                                                                                     | None                                                                                | None                                                                                |                                                                                     |



# Lanes, Volumes, Timings

## 5: South Bay Road & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Act Effect Green (s)    | 45.0                                                                              | 34.4                                                                              |                                                                                   | 51.4                                                                              | 42.3                                                                              |                                                                                   | 35.4                                                                               | 29.3                                                                                |                                                                                     | 30.6                                                                                | 23.3                                                                                |                                                                                     |
| Actuated g/C Ratio      | 0.46                                                                              | 0.35                                                                              |                                                                                   | 0.53                                                                              | 0.43                                                                              |                                                                                   | 0.36                                                                               | 0.30                                                                                |                                                                                     | 0.31                                                                                | 0.24                                                                                |                                                                                     |
| v/c Ratio               | 0.11                                                                              | 0.86                                                                              |                                                                                   | 0.58                                                                              | 0.67                                                                              |                                                                                   | 0.27                                                                               | 0.63                                                                                |                                                                                     | 0.06                                                                                | 0.70                                                                                |                                                                                     |
| Control Delay           | 14.2                                                                              | 45.3                                                                              |                                                                                   | 21.6                                                                              | 31.1                                                                              |                                                                                   | 22.7                                                                               | 32.3                                                                                |                                                                                     | 20.2                                                                                | 43.5                                                                                |                                                                                     |
| Queue Delay             | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                                | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Delay             | 14.2                                                                              | 45.3                                                                              |                                                                                   | 21.6                                                                              | 31.1                                                                              |                                                                                   | 22.7                                                                               | 32.3                                                                                |                                                                                     | 20.2                                                                                | 43.5                                                                                |                                                                                     |
| LOS                     | B                                                                                 | D                                                                                 |                                                                                   | C                                                                                 | C                                                                                 |                                                                                   | C                                                                                  | C                                                                                   |                                                                                     | C                                                                                   | D                                                                                   |                                                                                     |
| Approach Delay          |                                                                                   | 43.3                                                                              |                                                                                   |                                                                                   | 28.8                                                                              |                                                                                   |                                                                                    | 30.3                                                                                |                                                                                     |                                                                                     | 42.2                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                    | C                                                                                   |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 12                                                                                | 342                                                                               |                                                                                   | 60                                                                                | 309                                                                               |                                                                                   | 37                                                                                 | 151                                                                                 |                                                                                     | 7                                                                                   | 179                                                                                 |                                                                                     |
| Queue Length 95th (ft)  | 31                                                                                | #566                                                                              |                                                                                   | 110                                                                               | 453                                                                               |                                                                                   | 61                                                                                 | 275                                                                                 |                                                                                     | 18                                                                                  | 212                                                                                 |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 708                                                                               |                                                                                   |                                                                                   | 745                                                                               |                                                                                   |                                                                                    | 714                                                                                 |                                                                                     |                                                                                     | 572                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 225                                                                               |                                                                                   |                                                                                   | 225                                                                               |                                                                                   |                                                                                   | 280                                                                                |                                                                                     |                                                                                     | 225                                                                                 |                                                                                     |                                                                                     |
| Base Capacity (vph)     | 423                                                                               | 736                                                                               |                                                                                   | 327                                                                               | 822                                                                               |                                                                                   | 342                                                                                | 606                                                                                 |                                                                                     | 380                                                                                 | 540                                                                                 |                                                                                     |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       | 0.09                                                                              | 0.76                                                                              |                                                                                   | 0.55                                                                              | 0.66                                                                              |                                                                                   | 0.25                                                                               | 0.56                                                                                |                                                                                     | 0.05                                                                                | 0.56                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 97.5

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 35.4

Intersection LOS: D

Intersection Capacity Utilization 78.6%

ICU Level of Service D

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

### Splits and Phases: 5: South Bay Road & Route 31

|                                                                                        |                                                                                        |                                                                                        |                                                                                          |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
|  Ø1 |  Ø2 |  Ø3 |  Ø4 |
| 15 s                                                                                   | 45 s                                                                                   | 15 s                                                                                   | 35 s                                                                                     |
|  Ø5 |  Ø6 |  Ø7 |  Ø8 |
| 15 s                                                                                   | 45 s                                                                                   | 15 s                                                                                   | 35 s                                                                                     |



Lanes, Volumes, Timings  
6: Cicero Center Road & Route 31

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (vph)       | 64                                                                                | 463                                                                               | 7                                                                                 | 3                                                                                 | 403                                                                               | 26                                                                                | 7                                                                                 | 21                                                                                  | 6                                                                                   | 29                                                                                  | 9                                                                                   | 45                                                                                  |
| Future Volume (vph)        | 64                                                                                | 463                                                                               | 7                                                                                 | 3                                                                                 | 403                                                                               | 26                                                                                | 7                                                                                 | 21                                                                                  | 6                                                                                   | 29                                                                                  | 9                                                                                   | 45                                                                                  |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Satd. Flow (prot)          | 0                                                                                 | 1866                                                                              | 0                                                                                 | 0                                                                                 | 1866                                                                              | 0                                                                                 | 0                                                                                 | 1816                                                                                | 0                                                                                   | 0                                                                                   | 1694                                                                                | 0                                                                                   |
| Flt Permitted              |                                                                                   | 0.901                                                                             |                                                                                   |                                                                                   | 0.997                                                                             |                                                                                   |                                                                                   | 0.923                                                                               |                                                                                     |                                                                                     | 0.863                                                                               |                                                                                     |
| Satd. Flow (perm)          | 0                                                                                 | 1692                                                                              | 0                                                                                 | 0                                                                                 | 1861                                                                              | 0                                                                                 | 0                                                                                 | 1692                                                                                | 0                                                                                   | 0                                                                                   | 1487                                                                                | 0                                                                                   |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   | 2                                                                                 |                                                                                   |                                                                                   | 9                                                                                 |                                                                                   |                                                                                   | 9                                                                                   |                                                                                     |                                                                                     | 57                                                                                  |                                                                                     |
| Link Speed (mph)           |                                                                                   | 55                                                                                |                                                                                   |                                                                                   | 55                                                                                |                                                                                   |                                                                                   | 55                                                                                  |                                                                                     |                                                                                     | 55                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 583                                                                               |                                                                                   |                                                                                   | 608                                                                               |                                                                                   |                                                                                   | 500                                                                                 |                                                                                     |                                                                                     | 505                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 7.2                                                                               |                                                                                   |                                                                                   | 7.5                                                                               |                                                                                   |                                                                                   | 6.2                                                                                 |                                                                                     |                                                                                     | 6.3                                                                                 |                                                                                     |
| Confl. Peds. (#/hr)        |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 1                                                                                   |
| Peak Hour Factor           | 0.95                                                                              | 0.95                                                                              | 0.95                                                                              | 0.87                                                                              | 0.87                                                                              | 0.87                                                                              | 0.69                                                                              | 0.69                                                                                | 0.69                                                                                | 0.79                                                                                | 0.79                                                                                | 0.79                                                                                |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 0                                                                                 | 561                                                                               | 0                                                                                 | 0                                                                                 | 496                                                                               | 0                                                                                 | 0                                                                                 | 49                                                                                  | 0                                                                                   | 0                                                                                   | 105                                                                                 | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                  |                                                                                     | Perm                                                                                | NA                                                                                  |                                                                                     |
| Protected Phases           |                                                                                   | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                   |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |
| Permitted Phases           | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |                                                                                     |
| Detector Phase             | 2                                                                                 | 2                                                                                 |                                                                                   | 6                                                                                 | 6                                                                                 |                                                                                   | 8                                                                                 | 8                                                                                   |                                                                                     | 4                                                                                   | 4                                                                                   |                                                                                     |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 15.0                                                                              | 15.0                                                                              |                                                                                   | 15.0                                                                              | 15.0                                                                              |                                                                                   | 7.0                                                                               | 7.0                                                                                 |                                                                                     | 7.0                                                                                 | 7.0                                                                                 |                                                                                     |
| Minimum Split (s)          | 21.0                                                                              | 21.0                                                                              |                                                                                   | 21.0                                                                              | 21.0                                                                              |                                                                                   | 12.0                                                                              | 12.0                                                                                |                                                                                     | 12.0                                                                                | 12.0                                                                                |                                                                                     |
| Total Split (s)            | 30.0                                                                              | 30.0                                                                              |                                                                                   | 30.0                                                                              | 30.0                                                                              |                                                                                   | 20.0                                                                              | 20.0                                                                                |                                                                                     | 20.0                                                                                | 20.0                                                                                |                                                                                     |
| Total Split (%)            | 60.0%                                                                             | 60.0%                                                                             |                                                                                   | 60.0%                                                                             | 60.0%                                                                             |                                                                                   | 40.0%                                                                             | 40.0%                                                                               |                                                                                     | 40.0%                                                                               | 40.0%                                                                               |                                                                                     |
| Maximum Green (s)          | 24.0                                                                              | 24.0                                                                              |                                                                                   | 24.0                                                                              | 24.0                                                                              |                                                                                   | 15.0                                                                              | 15.0                                                                                |                                                                                     | 15.0                                                                                | 15.0                                                                                |                                                                                     |
| Yellow Time (s)            | 4.0                                                                               | 4.0                                                                               |                                                                                   | 4.0                                                                               | 4.0                                                                               |                                                                                   | 4.0                                                                               | 4.0                                                                                 |                                                                                     | 4.0                                                                                 | 4.0                                                                                 |                                                                                     |
| All-Red Time (s)           | 2.0                                                                               | 2.0                                                                               |                                                                                   | 2.0                                                                               | 2.0                                                                               |                                                                                   | 1.0                                                                               | 1.0                                                                                 |                                                                                     | 1.0                                                                                 | 1.0                                                                                 |                                                                                     |
| Lost Time Adjust (s)       |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                                 |                                                                                     |                                                                                     | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)        |                                                                                   | 6.0                                                                               |                                                                                   |                                                                                   | 6.0                                                                               |                                                                                   |                                                                                   | 5.0                                                                                 |                                                                                     |                                                                                     | 5.0                                                                                 |                                                                                     |
| Lead/Lag                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?         |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Vehicle Extension (s)      | 5.0                                                                               | 5.0                                                                               |                                                                                   | 5.0                                                                               | 5.0                                                                               |                                                                                   | 2.0                                                                               | 2.0                                                                                 |                                                                                     | 2.0                                                                                 | 2.0                                                                                 |                                                                                     |
| Recall Mode                | Max                                                                               | Max                                                                               |                                                                                   | Max                                                                               | Max                                                                               |                                                                                   | None                                                                              | None                                                                                |                                                                                     | None                                                                                | None                                                                                |                                                                                     |
| Act Effect Green (s)       |                                                                                   | 31.1                                                                              |                                                                                   |                                                                                   | 31.1                                                                              |                                                                                   |                                                                                   | 7.5                                                                                 |                                                                                     |                                                                                     | 7.5                                                                                 |                                                                                     |
| Actuated g/C Ratio         |                                                                                   | 0.74                                                                              |                                                                                   |                                                                                   | 0.74                                                                              |                                                                                   |                                                                                   | 0.18                                                                                |                                                                                     |                                                                                     | 0.18                                                                                |                                                                                     |
| v/c Ratio                  |                                                                                   | 0.45                                                                              |                                                                                   |                                                                                   | 0.36                                                                              |                                                                                   |                                                                                   | 0.16                                                                                |                                                                                     |                                                                                     | 0.34                                                                                |                                                                                     |
| Control Delay              |                                                                                   | 6.6                                                                               |                                                                                   |                                                                                   | 5.5                                                                               |                                                                                   |                                                                                   | 14.1                                                                                |                                                                                     |                                                                                     | 12.0                                                                                |                                                                                     |
| Queue Delay                |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                                 |                                                                                     |                                                                                     | 0.0                                                                                 |                                                                                     |
| Total Delay                |                                                                                   | 6.6                                                                               |                                                                                   |                                                                                   | 5.5                                                                               |                                                                                   |                                                                                   | 14.1                                                                                |                                                                                     |                                                                                     | 12.0                                                                                |                                                                                     |



# Lanes, Volumes, Timings

## 6: Cicero Center Road & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| LOS                     |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | B                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| Approach Delay          |                                                                                   | 6.6                                                                               |                                                                                   |                                                                                   | 5.5                                                                               |                                                                                   |                                                                                   | 14.1                                                                                |                                                                                     |                                                                                     | 12.0                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | B                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| Queue Length 50th (ft)  |                                                                                   | 70                                                                                |                                                                                   |                                                                                   | 55                                                                                |                                                                                   |                                                                                   | 8                                                                                   |                                                                                     |                                                                                     | 10                                                                                  |                                                                                     |
| Queue Length 95th (ft)  |                                                                                   | 156                                                                               |                                                                                   |                                                                                   | 113                                                                               |                                                                                   |                                                                                   | 21                                                                                  |                                                                                     |                                                                                     | 33                                                                                  |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 503                                                                               |                                                                                   |                                                                                   | 528                                                                               |                                                                                   |                                                                                   | 420                                                                                 |                                                                                     |                                                                                     | 425                                                                                 |                                                                                     |
| Turn Bay Length (ft)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Base Capacity (vph)     |                                                                                   | 1247                                                                              |                                                                                   |                                                                                   | 1373                                                                              |                                                                                   |                                                                                   | 610                                                                                 |                                                                                     |                                                                                     | 567                                                                                 |                                                                                     |
| Starvation Cap Reductn  |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       |                                                                                   | 0.45                                                                              |                                                                                   |                                                                                   | 0.36                                                                              |                                                                                   |                                                                                   | 0.08                                                                                |                                                                                     |                                                                                     | 0.19                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Cycle Length: 50

Actuated Cycle Length: 42.2

Natural Cycle: 40

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.45

Intersection Signal Delay: 6.9

Intersection Capacity Utilization 73.7%

Analysis Period (min) 15

Intersection LOS: A

ICU Level of Service D

Splits and Phases: 6: Cicero Center Road & Route 31

|                                                                                        |  |                                                                                        |
|----------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------|
|  Ø2 |  |  Ø4 |
| 30 s                                                                                   |  | 20 s                                                                                   |
|  Ø6 |  |  Ø8 |
| 30 s                                                                                   |  | 20 s                                                                                   |



Lanes, Volumes, Timings  
7: Route 31 & Lakeshore Road (East)

07/05/2022

|                            |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | WBT                                                                               | WBR                                                                               | SBL                                                                               | SBR                                                                               |
| Lane Configurations        |                                                                                   |  |  |                                                                                   |  |                                                                                   |
| Traffic Volume (vph)       | 55                                                                                | 445                                                                               | 397                                                                               | 56                                                                                | 59                                                                                | 33                                                                                |
| Future Volume (vph)        | 55                                                                                | 445                                                                               | 397                                                                               | 56                                                                                | 59                                                                                | 33                                                                                |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Satd. Flow (prot)          | 0                                                                                 | 1876                                                                              | 1849                                                                              | 0                                                                                 | 1734                                                                              | 0                                                                                 |
| Flt Permitted              |                                                                                   | 0.997                                                                             |                                                                                   |                                                                                   | 0.969                                                                             |                                                                                   |
| Satd. Flow (perm)          | 0                                                                                 | 1876                                                                              | 1849                                                                              | 0                                                                                 | 1734                                                                              | 0                                                                                 |
| Link Speed (mph)           |                                                                                   | 55                                                                                | 55                                                                                |                                                                                   | 35                                                                                |                                                                                   |
| Link Distance (ft)         |                                                                                   | 516                                                                               | 592                                                                               |                                                                                   | 420                                                                               |                                                                                   |
| Travel Time (s)            |                                                                                   | 6.4                                                                               | 7.3                                                                               |                                                                                   | 8.2                                                                               |                                                                                   |
| Peak Hour Factor           | 0.89                                                                              | 0.89                                                                              | 0.88                                                                              | 0.88                                                                              | 0.83                                                                              | 0.83                                                                              |
| Growth Factor              | 50%                                                                               | 100%                                                                              | 100%                                                                              | 100%                                                                              | 100%                                                                              | 100%                                                                              |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)      | 0                                                                                 | 531                                                                               | 515                                                                               | 0                                                                                 | 111                                                                               | 0                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment             | Left                                                                              | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Right                                                                             |
| Median Width(ft)           |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 12                                                                                |                                                                                   |
| Link Offset(ft)            |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 |                                                                                   |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                | 16                                                                                |                                                                                   | 16                                                                                |                                                                                   |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (mph)        | 15                                                                                |                                                                                   |                                                                                   | 9                                                                                 | 15                                                                                | 9                                                                                 |
| Sign Control               |                                                                                   | Free                                                                              | Free                                                                              |                                                                                   | Stop                                                                              |                                                                                   |

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 57.9%

ICU Level of Service B

Analysis Period (min) 15



HCM 6th TWSC  
7: Route 31 & Lakeshore Road (East)

07/05/2022

Intersection

Int Delay, s/veh 2.4

| Movement                 | EBL  | EBT                                                                               | WBT                                                                               | WBR  | SBL                                                                               | SBR  |
|--------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|------|
| Lane Configurations      |      |  |  |      |  |      |
| Traffic Vol, veh/h       | 55   | 445                                                                               | 397                                                                               | 56   | 59                                                                                | 33   |
| Future Vol, veh/h        | 55   | 445                                                                               | 397                                                                               | 56   | 59                                                                                | 33   |
| Conflicting Peds, #/hr   | 0    | 0                                                                                 | 0                                                                                 | 0    | 0                                                                                 | 0    |
| Sign Control             | Free | Free                                                                              | Free                                                                              | Free | Stop                                                                              | Stop |
| RT Channelized           | -    | None                                                                              | -                                                                                 | None | -                                                                                 | None |
| Storage Length           | -    | -                                                                                 | -                                                                                 | -    | 0                                                                                 | -    |
| Veh in Median Storage, # | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Grade, %                 | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Peak Hour Factor         | 89   | 89                                                                                | 88                                                                                | 88   | 83                                                                                | 83   |
| Heavy Vehicles, %        | 1    | 1                                                                                 | 1                                                                                 | 1    | 1                                                                                 | 1    |
| Mvmt Flow                | 31   | 500                                                                               | 451                                                                               | 64   | 71                                                                                | 40   |

| Major/Minor          | Major1 | Major2 | Minor2        |
|----------------------|--------|--------|---------------|
| Conflicting Flow All | 515    | 0      | 0 1045 483    |
| Stage 1              | -      | -      | - 483 -       |
| Stage 2              | -      | -      | - 562 -       |
| Critical Hdwy        | 4.11   | -      | - 6.41 6.21   |
| Critical Hdwy Stg 1  | -      | -      | - 5.41 -      |
| Critical Hdwy Stg 2  | -      | -      | - 5.41 -      |
| Follow-up Hdwy       | 2.209  | -      | - 3.509 3.309 |
| Pot Cap-1 Maneuver   | 1056   | -      | - 254 586     |
| Stage 1              | -      | -      | - 622 -       |
| Stage 2              | -      | -      | - 573 -       |
| Platoon blocked, %   | -      | -      | -             |
| Mov Cap-1 Maneuver   | 1056   | -      | - 244 586     |
| Mov Cap-2 Maneuver   | -      | -      | - 244 -       |
| Stage 1              | -      | -      | - 596 -       |
| Stage 2              | -      | -      | - 573 -       |

| Approach             | EB  | WB | SB |
|----------------------|-----|----|----|
| HCM Control Delay, s | 0.5 | 0  | 23 |
| HCM LOS              |     |    | C  |

| Minor Lane/Major Mvmt | EBL   | EBT | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-----|-------|
| Capacity (veh/h)      | 1056  | -   | -   | -   | 309   |
| HCM Lane V/C Ratio    | 0.029 | -   | -   | -   | 0.359 |
| HCM Control Delay (s) | 8.5   | 0   | -   | -   | 23    |
| HCM Lane LOS          | A     | A   | -   | -   | C     |
| HCM 95th %tile Q(veh) | 0.1   | -   | -   | -   | 1.6   |



# Lanes, Volumes, Timings

## 8: Thompson Road & South Bay Road

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |  |  |                                                                                   |  |  |                                                                                   |                                                                                   |  |  |                                                                                     |  |  |
| Traffic Volume (vph)       | 216                                                                               | 330                                                                               | 3                                                                                 | 99                                                                                | 295                                                                               | 16                                                                                | 8                                                                                 | 151                                                                                 | 128                                                                                 | 16                                                                                  | 155                                                                                 | 175                                                                                 |
| Future Volume (vph)        | 216                                                                               | 330                                                                               | 3                                                                                 | 99                                                                                | 295                                                                               | 16                                                                                | 8                                                                                 | 151                                                                                 | 128                                                                                 | 16                                                                                  | 155                                                                                 | 175                                                                                 |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 300                                                                               |                                                                                   | 0                                                                                 | 250                                                                               |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                     | 210                                                                                 | 0                                                                                   |                                                                                     | 600                                                                                 |
| Storage Lanes              | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                     | 1                                                                                   | 0                                                                                   |                                                                                     | 1                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 1787                                                                              | 1879                                                                              | 0                                                                                 | 1787                                                                              | 1866                                                                              | 0                                                                                 | 0                                                                                 | 1877                                                                                | 1599                                                                                | 0                                                                                   | 1872                                                                                | 1599                                                                                |
| Flt Permitted              | 0.358                                                                             |                                                                                   |                                                                                   | 0.379                                                                             |                                                                                   |                                                                                   |                                                                                   | 0.983                                                                               |                                                                                     |                                                                                     | 0.964                                                                               |                                                                                     |
| Satd. Flow (perm)          | 673                                                                               | 1879                                                                              | 0                                                                                 | 713                                                                               | 1866                                                                              | 0                                                                                 | 0                                                                                 | 1849                                                                                | 1599                                                                                | 0                                                                                   | 1813                                                                                | 1599                                                                                |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   | 1                                                                                 |                                                                                   |                                                                                   | 4                                                                                 |                                                                                   |                                                                                   |                                                                                     | 149                                                                                 |                                                                                     |                                                                                     | 190                                                                                 |
| Link Speed (mph)           |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 45                                                                                  |                                                                                     |                                                                                     | 45                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 1324                                                                              |                                                                                   |                                                                                   | 1155                                                                              |                                                                                   |                                                                                   | 1095                                                                                |                                                                                     |                                                                                     | 1033                                                                                |                                                                                     |
| Travel Time (s)            |                                                                                   | 20.1                                                                              |                                                                                   |                                                                                   | 17.5                                                                              |                                                                                   |                                                                                   | 16.6                                                                                |                                                                                     |                                                                                     | 15.7                                                                                |                                                                                     |
| Peak Hour Factor           | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.89                                                                              | 0.89                                                                              | 0.89                                                                              | 0.86                                                                              | 0.86                                                                                | 0.86                                                                                | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 232                                                                               | 358                                                                               | 0                                                                                 | 111                                                                               | 349                                                                               | 0                                                                                 | 0                                                                                 | 185                                                                                 | 149                                                                                 | 0                                                                                   | 185                                                                                 | 190                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                             | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                  | pm+ov                                                                               | Perm                                                                                | NA                                                                                  | pm+ov                                                                               |
| Protected Phases           | 7                                                                                 | 4                                                                                 |                                                                                   | 3                                                                                 | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                   | 3                                                                                   |                                                                                     | 6                                                                                   | 7                                                                                   |
| Permitted Phases           | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                 |                                                                                     | 2                                                                                   | 6                                                                                   |                                                                                     | 6                                                                                   |
| Detector Phase             | 7                                                                                 | 4                                                                                 |                                                                                   | 3                                                                                 | 8                                                                                 |                                                                                   | 2                                                                                 | 2                                                                                   | 3                                                                                   | 6                                                                                   | 6                                                                                   | 7                                                                                   |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 5.0                                                                               | 10.0                                                                              |                                                                                   | 5.0                                                                               | 5.0                                                                               |                                                                                   | 10.0                                                                              | 10.0                                                                                | 5.0                                                                                 | 10.0                                                                                | 10.0                                                                                | 5.0                                                                                 |
| Minimum Split (s)          | 12.0                                                                              | 17.0                                                                              |                                                                                   | 12.0                                                                              | 12.0                                                                              |                                                                                   | 16.5                                                                              | 16.5                                                                                | 12.0                                                                                | 16.5                                                                                | 16.5                                                                                | 12.0                                                                                |
| Total Split (s)            | 15.0                                                                              | 30.0                                                                              |                                                                                   | 15.0                                                                              | 30.0                                                                              |                                                                                   | 30.0                                                                              | 30.0                                                                                | 15.0                                                                                | 30.0                                                                                | 30.0                                                                                | 15.0                                                                                |
| Total Split (%)            | 20.0%                                                                             | 40.0%                                                                             |                                                                                   | 20.0%                                                                             | 40.0%                                                                             |                                                                                   | 40.0%                                                                             | 40.0%                                                                               | 20.0%                                                                               | 40.0%                                                                               | 40.0%                                                                               | 20.0%                                                                               |
| Maximum Green (s)          | 8.0                                                                               | 23.0                                                                              |                                                                                   | 8.0                                                                               | 23.0                                                                              |                                                                                   | 23.5                                                                              | 23.5                                                                                | 8.0                                                                                 | 23.5                                                                                | 23.5                                                                                | 8.0                                                                                 |
| Yellow Time (s)            | 4.0                                                                               | 4.0                                                                               |                                                                                   | 4.0                                                                               | 4.0                                                                               |                                                                                   | 3.5                                                                               | 3.5                                                                                 | 4.0                                                                                 | 3.5                                                                                 | 3.5                                                                                 | 4.0                                                                                 |
| All-Red Time (s)           | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |
| Lost Time Adjust (s)       | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                                 | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |
| Total Lost Time (s)        | 7.0                                                                               | 7.0                                                                               |                                                                                   | 7.0                                                                               | 7.0                                                                               |                                                                                   |                                                                                   | 6.5                                                                                 | 7.0                                                                                 |                                                                                     | 6.5                                                                                 | 7.0                                                                                 |
| Lead/Lag                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                              | Lag                                                                               |                                                                                   |                                                                                   |                                                                                     | Lead                                                                                |                                                                                     |                                                                                     | Lead                                                                                |
| Lead-Lag Optimize?         | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                               | Yes                                                                               |                                                                                   |                                                                                   |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Vehicle Extension (s)      | 3.0                                                                               | 2.0                                                                               |                                                                                   | 3.0                                                                               | 2.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |
| Recall Mode                | None                                                                              | Min                                                                               |                                                                                   | None                                                                              | Min                                                                               |                                                                                   | Max                                                                               | Max                                                                                 | None                                                                                | Max                                                                                 | Max                                                                                 | None                                                                                |
| Act Effct Green (s)        | 25.5                                                                              | 17.5                                                                              |                                                                                   | 24.3                                                                              | 16.9                                                                              |                                                                                   |                                                                                   | 23.6                                                                                | 37.6                                                                                |                                                                                     | 23.6                                                                                | 38.1                                                                                |
| Actuated g/C Ratio         | 0.37                                                                              | 0.25                                                                              |                                                                                   | 0.35                                                                              | 0.24                                                                              |                                                                                   |                                                                                   | 0.34                                                                                | 0.54                                                                                |                                                                                     | 0.34                                                                                | 0.55                                                                                |
| v/c Ratio                  | 0.62                                                                              | 0.75                                                                              |                                                                                   | 0.30                                                                              | 0.76                                                                              |                                                                                   |                                                                                   | 0.29                                                                                | 0.16                                                                                |                                                                                     | 0.30                                                                                | 0.20                                                                                |
| Control Delay              | 19.8                                                                              | 34.5                                                                              |                                                                                   | 13.0                                                                              | 35.2                                                                              |                                                                                   |                                                                                   | 19.5                                                                                | 2.3                                                                                 |                                                                                     | 19.6                                                                                | 2.2                                                                                 |



# Lanes, Volumes, Timings

## 8: Thompson Road & South Bay Road

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Queue Delay             | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                                 | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |
| Total Delay             | 19.8                                                                              | 34.5                                                                              |                                                                                   | 13.0                                                                              | 35.2                                                                              |                                                                                   |                                                                                   | 19.5                                                                                | 2.3                                                                                 |                                                                                     | 19.6                                                                                | 2.2                                                                                 |
| LOS                     | B                                                                                 | C                                                                                 |                                                                                   | B                                                                                 | D                                                                                 |                                                                                   |                                                                                   | B                                                                                   | A                                                                                   |                                                                                     | B                                                                                   | A                                                                                   |
| Approach Delay          |                                                                                   | 28.7                                                                              |                                                                                   |                                                                                   | 29.8                                                                              |                                                                                   |                                                                                   | 11.8                                                                                |                                                                                     |                                                                                     | 10.8                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | B                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 58                                                                                | 141                                                                               |                                                                                   | 26                                                                                | 135                                                                               |                                                                                   |                                                                                   | 57                                                                                  | 0                                                                                   |                                                                                     | 57                                                                                  | 0                                                                                   |
| Queue Length 95th (ft)  | 99                                                                                | 227                                                                               |                                                                                   | 50                                                                                | 216                                                                               |                                                                                   |                                                                                   | 110                                                                                 | 23                                                                                  |                                                                                     | 116                                                                                 | 29                                                                                  |
| Internal Link Dist (ft) |                                                                                   | 1244                                                                              |                                                                                   |                                                                                   | 1075                                                                              |                                                                                   |                                                                                   | 1015                                                                                |                                                                                     |                                                                                     | 953                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 300                                                                               |                                                                                   |                                                                                   | 250                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 210                                                                                 |                                                                                     |                                                                                     | 600                                                                                 |
| Base Capacity (vph)     | 378                                                                               | 628                                                                               |                                                                                   | 382                                                                               | 626                                                                               |                                                                                   |                                                                                   | 631                                                                                 | 949                                                                                 |                                                                                     | 619                                                                                 | 968                                                                                 |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |
| Reduced v/c Ratio       | 0.61                                                                              | 0.57                                                                              |                                                                                   | 0.29                                                                              | 0.56                                                                              |                                                                                   |                                                                                   | 0.29                                                                                | 0.16                                                                                |                                                                                     | 0.30                                                                                | 0.20                                                                                |

### Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 69.1

Natural Cycle: 55

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 22.0

Intersection Capacity Utilization 67.0%

Analysis Period (min) 15

Intersection LOS: C

ICU Level of Service C

### Splits and Phases: 8: Thompson Road & South Bay Road

|                                                                                        |                                                                                        |                                                                                        |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
|  Ø2 |  Ø3 |  Ø4 |
| 30 s                                                                                   | 15 s                                                                                   | 30 s                                                                                   |
|  Ø6 |  Ø7 |  Ø8 |
| 30 s                                                                                   | 15 s                                                                                   | 30 s                                                                                   |



# Lanes, Volumes, Timings

## 9: Lakeshore Road & Mudd Mill Road

07/05/2022

|                            |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | WBT                                                                               | WBR                                                                               | SBL                                                                               | SBR                                                                               |
| Lane Configurations        |                                                                                   |  |  |                                                                                   |  |                                                                                   |
| Traffic Volume (vph)       | 44                                                                                | 224                                                                               | 158                                                                               | 117                                                                               | 126                                                                               | 34                                                                                |
| Future Volume (vph)        | 44                                                                                | 224                                                                               | 158                                                                               | 117                                                                               | 126                                                                               | 34                                                                                |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Satd. Flow (prot)          | 0                                                                                 | 1866                                                                              | 1772                                                                              | 0                                                                                 | 1757                                                                              | 0                                                                                 |
| Flt Permitted              |                                                                                   | 0.992                                                                             |                                                                                   |                                                                                   | 0.962                                                                             |                                                                                   |
| Satd. Flow (perm)          | 0                                                                                 | 1866                                                                              | 1772                                                                              | 0                                                                                 | 1757                                                                              | 0                                                                                 |
| Link Speed (mph)           |                                                                                   | 35                                                                                | 35                                                                                |                                                                                   | 35                                                                                |                                                                                   |
| Link Distance (ft)         |                                                                                   | 753                                                                               | 701                                                                               |                                                                                   | 545                                                                               |                                                                                   |
| Travel Time (s)            |                                                                                   | 14.7                                                                              | 13.7                                                                              |                                                                                   | 10.6                                                                              |                                                                                   |
| Peak Hour Factor           | 0.82                                                                              | 0.82                                                                              | 0.97                                                                              | 0.97                                                                              | 0.85                                                                              | 0.85                                                                              |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)      | 0                                                                                 | 327                                                                               | 284                                                                               | 0                                                                                 | 188                                                                               | 0                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment             | Left                                                                              | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Right                                                                             |
| Median Width(ft)           |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 12                                                                                |                                                                                   |
| Link Offset(ft)            |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 |                                                                                   |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                | 16                                                                                |                                                                                   | 16                                                                                |                                                                                   |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (mph)        | 15                                                                                |                                                                                   |                                                                                   | 9                                                                                 | 15                                                                                | 9                                                                                 |
| Sign Control               |                                                                                   | Free                                                                              | Free                                                                              |                                                                                   | Stop                                                                              |                                                                                   |

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 48.7%

ICU Level of Service A

Analysis Period (min) 15



HCM 6th TWSC  
9: Lakeshore Road & Mudd Mill Road

07/05/2022

Intersection

| Int Delay, s/veh         | 4.5  |                                                                                   |                                                                                   |      |                                                                                   |      |
|--------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|------|
| Movement                 | EBL  | EBT                                                                               | WBT                                                                               | WBR  | SBL                                                                               | SBR  |
| Lane Configurations      |      |  |  |      |  |      |
| Traffic Vol, veh/h       | 44   | 224                                                                               | 158                                                                               | 117  | 126                                                                               | 34   |
| Future Vol, veh/h        | 44   | 224                                                                               | 158                                                                               | 117  | 126                                                                               | 34   |
| Conflicting Peds, #/hr   | 0    | 0                                                                                 | 0                                                                                 | 0    | 0                                                                                 | 0    |
| Sign Control             | Free | Free                                                                              | Free                                                                              | Free | Stop                                                                              | Stop |
| RT Channelized           | -    | None                                                                              | -                                                                                 | None | -                                                                                 | None |
| Storage Length           | -    | -                                                                                 | -                                                                                 | -    | 0                                                                                 | -    |
| Veh in Median Storage, # | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Grade, %                 | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Peak Hour Factor         | 82   | 82                                                                                | 97                                                                                | 97   | 85                                                                                | 85   |
| Heavy Vehicles, %        | 1    | 1                                                                                 | 1                                                                                 | 1    | 1                                                                                 | 1    |
| Mvmt Flow                | 54   | 273                                                                               | 163                                                                               | 121  | 148                                                                               | 40   |

| Major/Minor          | Major1 | Major2 | Minor2 |
|----------------------|--------|--------|--------|
| Conflicting Flow All | 284    | 0      | 0      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |
| Critical Hdwy        | 4.11   | -      | -      |
| Critical Hdwy Stg 1  | -      | -      | -      |
| Critical Hdwy Stg 2  | -      | -      | -      |
| Follow-up Hdwy       | 2.209  | -      | -      |
| Pot Cap-1 Maneuver   | 1284   | -      | -      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |
| Platoon blocked, %   | -      | -      | -      |
| Mov Cap-1 Maneuver   | 1284   | -      | -      |
| Mov Cap-2 Maneuver   | -      | -      | -      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |

| Approach             | EB  | WB | SB |
|----------------------|-----|----|----|
| HCM Control Delay, s | 1.3 | 0  | 17 |
| HCM LOS              |     |    | C  |

| Minor Lane/Major Mvmt | EBL   | EBT | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-----|-------|
| Capacity (veh/h)      | 1284  | -   | -   | -   | 487   |
| HCM Lane V/C Ratio    | 0.042 | -   | -   | -   | 0.387 |
| HCM Control Delay (s) | 7.9   | 0   | -   | -   | 17    |
| HCM Lane LOS          | A     | A   | -   | -   | C     |
| HCM 95th %tile Q(veh) | 0.1   | -   | -   | -   | 1.8   |



# Lanes, Volumes, Timings

## 10: South Bay Road & Lakeshore Road

07/05/2022

|                            |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                 | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations        |  |                                                                                   |                                                                                   |  |  |                                                                                   |
| Traffic Volume (vph)       | 180                                                                               | 7                                                                                 | 103                                                                               | 141                                                                               | 13                                                                                | 105                                                                               |
| Future Volume (vph)        | 180                                                                               | 7                                                                                 | 103                                                                               | 141                                                                               | 13                                                                                | 105                                                                               |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Satd. Flow (prot)          | 1835                                                                              | 0                                                                                 | 0                                                                                 | 1738                                                                              | 1600                                                                              | 0                                                                                 |
| Flt Permitted              |                                                                                   |                                                                                   |                                                                                   | 0.979                                                                             | 0.995                                                                             |                                                                                   |
| Satd. Flow (perm)          | 1835                                                                              | 0                                                                                 | 0                                                                                 | 1738                                                                              | 1600                                                                              | 0                                                                                 |
| Link Speed (mph)           | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                | 45                                                                                |                                                                                   |
| Link Distance (ft)         | 538                                                                               |                                                                                   |                                                                                   | 300                                                                               | 501                                                                               |                                                                                   |
| Travel Time (s)            | 10.5                                                                              |                                                                                   |                                                                                   | 5.8                                                                               | 7.6                                                                               |                                                                                   |
| Confl. Peds. (#/hr)        |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 2                                                                                 |
| Peak Hour Factor           | 0.93                                                                              | 0.93                                                                              | 0.89                                                                              | 0.89                                                                              | 0.92                                                                              | 0.92                                                                              |
| Heavy Vehicles (%)         | 3%                                                                                | 3%                                                                                | 7%                                                                                | 7%                                                                                | 4%                                                                                | 4%                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)      | 202                                                                               | 0                                                                                 | 0                                                                                 | 274                                                                               | 128                                                                               | 0                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment             | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Left                                                                              | Right                                                                             |
| Median Width(ft)           | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 | 12                                                                                |                                                                                   |
| Link Offset(ft)            | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |
| Crosswalk Width(ft)        | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                | 16                                                                                |                                                                                   |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (mph)        |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 15                                                                                | 9                                                                                 |
| Sign Control               | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              | Stop                                                                              |                                                                                   |

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 40.8%

ICU Level of Service A

Analysis Period (min) 15



HCM 6th TWSC  
10: South Bay Road & Lakeshore Road

07/05/2022

Intersection

| Int Delay, s/veh         | 3.8  |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      | ↰    |      |      | ↱    | ↰    | ↱    |
| Traffic Vol, veh/h       | 180  | 7    | 103  | 141  | 13   | 105  |
| Future Vol, veh/h        | 180  | 7    | 103  | 141  | 13   | 105  |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 2    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | -    | -    | 0    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 93   | 93   | 89   | 89   | 92   | 92   |
| Heavy Vehicles, %        | 3    | 3    | 7    | 7    | 4    | 4    |
| Mvmt Flow                | 194  | 8    | 116  | 158  | 14   | 114  |

| Major/Minor          | Major1 | Major2 | Minor1 |
|----------------------|--------|--------|--------|
| Conflicting Flow All | 0      | 0      | 202    |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |
| Critical Hdwy        | -      | -      | 4.17   |
| Critical Hdwy Stg 1  | -      | -      | -      |
| Critical Hdwy Stg 2  | -      | -      | -      |
| Follow-up Hdwy       | -      | -      | 2.263  |
| Pot Cap-1 Maneuver   | -      | -      | 1341   |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |
| Platoon blocked, %   | -      | -      | -      |
| Mov Cap-1 Maneuver   | -      | -      | 1341   |
| Mov Cap-2 Maneuver   | -      | -      | -      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |

| Approach             | EB | WB  | NB   |
|----------------------|----|-----|------|
| HCM Control Delay, s | 0  | 3.4 | 10.8 |
| HCM LOS              |    |     | B    |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL   | WBT |
|-----------------------|-------|-----|-----|-------|-----|
| Capacity (veh/h)      | 754   | -   | -   | 1341  | -   |
| HCM Lane V/C Ratio    | 0.17  | -   | -   | 0.086 | -   |
| HCM Control Delay (s) | 10.8  | -   | -   | 7.9   | 0   |
| HCM Lane LOS          | B     | -   | -   | A     | A   |
| HCM 95th %tile Q(veh) | 0.6   | -   | -   | 0.3   | -   |



# Lanes, Volumes, Timings

## 11: Cicero Center Road/Van Antwerp Drive & Lakeshore Road

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (vph)       | 1                                                                                 | 258                                                                               | 26                                                                                | 7                                                                                 | 207                                                                               | 3                                                                                 | 32                                                                                | 1                                                                                   | 17                                                                                  | 0                                                                                   | 1                                                                                   | 5                                                                                   |
| Future Volume (vph)        | 1                                                                                 | 258                                                                               | 26                                                                                | 7                                                                                 | 207                                                                               | 3                                                                                 | 32                                                                                | 1                                                                                   | 17                                                                                  | 0                                                                                   | 1                                                                                   | 5                                                                                   |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Satd. Flow (prot)          | 0                                                                                 | 1840                                                                              | 0                                                                                 | 0                                                                                 | 1855                                                                              | 0                                                                                 | 0                                                                                 | 1722                                                                                | 0                                                                                   | 0                                                                                   | 1652                                                                                | 0                                                                                   |
| Flt Permitted              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.998                                                                             |                                                                                   |                                                                                   | 0.969                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Satd. Flow (perm)          | 0                                                                                 | 1840                                                                              | 0                                                                                 | 0                                                                                 | 1855                                                                              | 0                                                                                 | 0                                                                                 | 1722                                                                                | 0                                                                                   | 0                                                                                   | 1652                                                                                | 0                                                                                   |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 55                                                                                  |                                                                                     |                                                                                     | 30                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 557                                                                               |                                                                                   |                                                                                   | 543                                                                               |                                                                                   |                                                                                   | 388                                                                                 |                                                                                     |                                                                                     | 295                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 10.9                                                                              |                                                                                   |                                                                                   | 10.6                                                                              |                                                                                   |                                                                                   | 4.8                                                                                 |                                                                                     |                                                                                     | 6.7                                                                                 |                                                                                     |
| Confl. Peds. (#/hr)        | 1                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1                                                                                 | 1                                                                                 |                                                                                     | 1                                                                                   | 1                                                                                   |                                                                                     | 1                                                                                   |
| Peak Hour Factor           | 0.89                                                                              | 0.89                                                                              | 0.89                                                                              | 0.85                                                                              | 0.85                                                                              | 0.85                                                                              | 0.63                                                                              | 0.63                                                                                | 0.63                                                                                | 0.50                                                                                | 0.50                                                                                | 0.50                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 0                                                                                 | 320                                                                               | 0                                                                                 | 0                                                                                 | 256                                                                               | 0                                                                                 | 0                                                                                 | 80                                                                                  | 0                                                                                   | 0                                                                                   | 12                                                                                  | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Sign Control               |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Stop                                                                                |                                                                                     |                                                                                     | Stop                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 32.6%

ICU Level of Service A

Analysis Period (min) 15



Intersection

Int Delay, s/veh 1.9

| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations      |      | ↔    |      |      | ↔    |      |      | ↔    |      |      | ↔    |      |
| Traffic Vol, veh/h       | 1    | 258  | 26   | 7    | 207  | 3    | 32   | 1    | 17   | 0    | 1    | 5    |
| Future Vol, veh/h        | 1    | 258  | 26   | 7    | 207  | 3    | 32   | 1    | 17   | 0    | 1    | 5    |
| Conflicting Peds, #/hr   | 1    | 0    | 0    | 0    | 0    | 1    | 1    | 0    | 1    | 1    | 0    | 1    |
| Sign Control             | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -    | None |
| Storage Length           | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 89   | 89   | 89   | 85   | 85   | 85   | 63   | 63   | 63   | 50   | 50   | 50   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 1    | 290  | 29   | 8    | 244  | 4    | 51   | 2    | 27   | 0    | 2    | 10   |

| Major/Minor          | Major1 |   | Major2 |       | Minor1 |   | Minor2 |       |       |       |       |       |
|----------------------|--------|---|--------|-------|--------|---|--------|-------|-------|-------|-------|-------|
| Conflicting Flow All | 249    | 0 | 0      | 319   | 0      | 0 | 576    | 572   | 306   | 585   | 584   | 248   |
| Stage 1              | -      | - | -      | -     | -      | - | 307    | 307   | -     | 263   | 263   | -     |
| Stage 2              | -      | - | -      | -     | -      | - | 269    | 265   | -     | 322   | 321   | -     |
| Critical Hdwy        | 4.12   | - | -      | 4.12  | -      | - | 7.12   | 6.52  | 6.22  | 7.12  | 6.52  | 6.22  |
| Critical Hdwy Stg 1  | -      | - | -      | -     | -      | - | 6.12   | 5.52  | -     | 6.12  | 5.52  | -     |
| Critical Hdwy Stg 2  | -      | - | -      | -     | -      | - | 6.12   | 5.52  | -     | 6.12  | 5.52  | -     |
| Follow-up Hdwy       | 2.218  | - | -      | 2.218 | -      | - | 3.518  | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver   | 1317   | - | -      | 1241  | -      | - | 428    | 430   | 734   | 422   | 423   | 791   |
| Stage 1              | -      | - | -      | -     | -      | - | 703    | 661   | -     | 742   | 691   | -     |
| Stage 2              | -      | - | -      | -     | -      | - | 737    | 689   | -     | 690   | 652   | -     |
| Platoon blocked, %   |        | - | -      |       | -      | - |        |       |       |       |       |       |
| Mov Cap-1 Maneuver   | 1316   | - | -      | 1241  | -      | - | 418    | 426   | 733   | 402   | 419   | 789   |
| Mov Cap-2 Maneuver   | -      | - | -      | -     | -      | - | 418    | 426   | -     | 402   | 419   | -     |
| Stage 1              | -      | - | -      | -     | -      | - | 702    | 660   | -     | 741   | 685   | -     |
| Stage 2              | -      | - | -      | -     | -      | - | 720    | 683   | -     | 662   | 651   | -     |

| Approach             | EB |  | WB  |  | NB   |  | SB   |
|----------------------|----|--|-----|--|------|--|------|
| HCM Control Delay, s | 0  |  | 0.3 |  | 13.8 |  | 10.3 |
| HCM LOS              |    |  |     |  | B    |  | B    |

| Minor Lane/Major Mvmt | NBLn1 | EBL   | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 490   | 1316  | -   | -   | 1241  | -   | -   | 688   |
| HCM Lane V/C Ratio    | 0.162 | 0.001 | -   | -   | 0.007 | -   | -   | 0.017 |
| HCM Control Delay (s) | 13.8  | 7.7   | 0   | -   | 7.9   | 0   | -   | 10.3  |
| HCM Lane LOS          | B     | A     | A   | -   | A     | A   | -   | B     |
| HCM 95th %tile Q(veh) | 0.6   | 0     | -   | -   | 0     | -   | -   | 0.1   |



# Lanes, Volumes, Timings

## 1: Route 11 & Route 31

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |  |  |                                                                                   |  |  |                                                                                   |  |  |  |  |  |  |
| Traffic Volume (vph)       | 62                                                                                | 678                                                                               | 51                                                                                | 359                                                                               | 440                                                                               | 110                                                                               | 39                                                                                 | 96                                                                                  | 221                                                                                 | 120                                                                                 | 135                                                                                 | 35                                                                                  |
| Future Volume (vph)        | 62                                                                                | 678                                                                               | 51                                                                                | 359                                                                               | 440                                                                               | 110                                                                               | 39                                                                                 | 96                                                                                  | 221                                                                                 | 120                                                                                 | 135                                                                                 | 35                                                                                  |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                               | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 200                                                                               |                                                                                   | 310                                                                               | 495                                                                               |                                                                                   | 0                                                                                 | 175                                                                                |                                                                                     | 0                                                                                   | 350                                                                                 |                                                                                     | 0                                                                                   |
| Storage Lanes              | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                  |                                                                                     | 1                                                                                   | 1                                                                                   |                                                                                     | 0                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                 |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 1752                                                                              | 3466                                                                              | 0                                                                                 | 1736                                                                              | 3367                                                                              | 0                                                                                 | 1752                                                                               | 1845                                                                                | 1568                                                                                | 1719                                                                                | 3332                                                                                | 0                                                                                   |
| Flt Permitted              | 0.429                                                                             |                                                                                   |                                                                                   | 0.175                                                                             |                                                                                   |                                                                                   | 0.609                                                                              |                                                                                     |                                                                                     | 0.478                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)          | 791                                                                               | 3466                                                                              | 0                                                                                 | 320                                                                               | 3367                                                                              | 0                                                                                 | 1123                                                                               | 1845                                                                                | 1568                                                                                | 865                                                                                 | 3332                                                                                | 0                                                                                   |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                    |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   | 7                                                                                 |                                                                                   |                                                                                   | 40                                                                                |                                                                                   |                                                                                    |                                                                                     | 89                                                                                  |                                                                                     | 24                                                                                  |                                                                                     |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                    | 35                                                                                  |                                                                                     |                                                                                     | 35                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 385                                                                               |                                                                                   |                                                                                   | 703                                                                               |                                                                                   |                                                                                    | 612                                                                                 |                                                                                     |                                                                                     | 561                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 7.5                                                                               |                                                                                   |                                                                                   | 13.7                                                                              |                                                                                   |                                                                                    | 11.9                                                                                |                                                                                     |                                                                                     | 10.9                                                                                |                                                                                     |
| Peak Hour Factor           | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.87                                                                               | 0.87                                                                                | 0.87                                                                                | 0.74                                                                                | 0.74                                                                                | 0.74                                                                                |
| Heavy Vehicles (%)         | 3%                                                                                | 3%                                                                                | 3%                                                                                | 4%                                                                                | 4%                                                                                | 4%                                                                                | 3%                                                                                 | 3%                                                                                  | 3%                                                                                  | 5%                                                                                  | 5%                                                                                  | 5%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 70                                                                                | 828                                                                               | 0                                                                                 | 386                                                                               | 591                                                                               | 0                                                                                 | 45                                                                                 | 110                                                                                 | 254                                                                                 | 162                                                                                 | 229                                                                                 | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                 | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                               | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                    | 12                                                                                  |                                                                                     |                                                                                     | 12                                                                                  |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                    | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                    | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                 |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                              | NA                                                                                  | pm+ov                                                                               | pm+pt                                                                               | NA                                                                                  |                                                                                     |
| Protected Phases           | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 3                                                                                  | 8                                                                                   | 1                                                                                   | 7                                                                                   | 4                                                                                   |                                                                                     |
| Permitted Phases           | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                  |                                                                                     | 8                                                                                   | 4                                                                                   |                                                                                     |                                                                                     |
| Detector Phase             | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 3                                                                                  | 8                                                                                   | 1                                                                                   | 7                                                                                   | 4                                                                                   |                                                                                     |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 4.0                                                                               | 12.0                                                                              |                                                                                   | 8.0                                                                               | 12.0                                                                              |                                                                                   | 4.0                                                                                | 8.0                                                                                 | 8.0                                                                                 | 4.0                                                                                 | 8.0                                                                                 |                                                                                     |
| Minimum Split (s)          | 9.5                                                                               | 18.0                                                                              |                                                                                   | 13.5                                                                              | 18.0                                                                              |                                                                                   | 10.0                                                                               | 14.0                                                                                | 13.5                                                                                | 9.5                                                                                 | 14.0                                                                                |                                                                                     |
| Total Split (s)            | 14.0                                                                              | 40.0                                                                              |                                                                                   | 35.0                                                                              | 61.0                                                                              |                                                                                   | 14.0                                                                               | 19.0                                                                                | 35.0                                                                                | 16.0                                                                                | 21.0                                                                                |                                                                                     |
| Total Split (%)            | 12.7%                                                                             | 36.4%                                                                             |                                                                                   | 31.8%                                                                             | 55.5%                                                                             |                                                                                   | 12.7%                                                                              | 17.3%                                                                               | 31.8%                                                                               | 14.5%                                                                               | 19.1%                                                                               |                                                                                     |
| Maximum Green (s)          | 8.5                                                                               | 34.0                                                                              |                                                                                   | 29.5                                                                              | 55.0                                                                              |                                                                                   | 8.0                                                                                | 13.0                                                                                | 29.5                                                                                | 10.5                                                                                | 15.0                                                                                |                                                                                     |
| Yellow Time (s)            | 3.5                                                                               | 3.5                                                                               |                                                                                   | 3.5                                                                               | 3.5                                                                               |                                                                                   | 3.5                                                                                | 3.5                                                                                 | 3.5                                                                                 | 3.0                                                                                 | 3.5                                                                                 |                                                                                     |
| All-Red Time (s)           | 2.0                                                                               | 2.5                                                                               |                                                                                   | 2.0                                                                               | 2.5                                                                               |                                                                                   | 2.5                                                                                | 2.5                                                                                 | 2.0                                                                                 | 2.5                                                                                 | 2.5                                                                                 |                                                                                     |
| Lost Time Adjust (s)       | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                                | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)        | 5.5                                                                               | 6.0                                                                               |                                                                                   | 5.5                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                                | 6.0                                                                                 | 5.5                                                                                 | 5.5                                                                                 | 6.0                                                                                 |                                                                                     |
| Lead/Lag                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                               | Lag                                                                                 | Lead                                                                                | Lead                                                                                | Lag                                                                                 |                                                                                     |
| Lead-Lag Optimize?         | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                                | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 |                                                                                     |
| Vehicle Extension (s)      | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                                | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |
| Recall Mode                | None                                                                              | C-Min                                                                             |                                                                                   | None                                                                              | C-Min                                                                             |                                                                                   | None                                                                               | None                                                                                | None                                                                                | None                                                                                | None                                                                                |                                                                                     |
| Act Effect Green (s)       | 48.8                                                                              | 41.0                                                                              |                                                                                   | 70.3                                                                              | 59.3                                                                              |                                                                                   | 18.4                                                                               | 11.2                                                                                | 40.5                                                                                | 27.2                                                                                | 17.3                                                                                |                                                                                     |
| Actuated g/C Ratio         | 0.44                                                                              | 0.37                                                                              |                                                                                   | 0.64                                                                              | 0.54                                                                              |                                                                                   | 0.17                                                                               | 0.10                                                                                | 0.37                                                                                | 0.25                                                                                | 0.16                                                                                |                                                                                     |
| v/c Ratio                  | 0.17                                                                              | 0.64                                                                              |                                                                                   | 0.77                                                                              | 0.32                                                                              |                                                                                   | 0.20                                                                               | 0.59                                                                                | 0.40                                                                                | 0.53                                                                                | 0.42                                                                                |                                                                                     |
| Control Delay              | 11.9                                                                              | 32.4                                                                              |                                                                                   | 32.9                                                                              | 6.7                                                                               |                                                                                   | 33.1                                                                               | 60.0                                                                                | 16.9                                                                                | 40.3                                                                                | 40.8                                                                                |                                                                                     |



# Lanes, Volumes, Timings

## 1: Route 11 & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Queue Delay             | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Delay             | 11.9                                                                              | 32.4                                                                              |                                                                                   | 32.9                                                                              | 6.7                                                                               |                                                                                   | 33.1                                                                              | 60.0                                                                                | 16.9                                                                                | 40.3                                                                                | 40.8                                                                                |                                                                                     |
| LOS                     | B                                                                                 | C                                                                                 |                                                                                   | C                                                                                 | A                                                                                 |                                                                                   | C                                                                                 | E                                                                                   | B                                                                                   | D                                                                                   | D                                                                                   |                                                                                     |
| Approach Delay          |                                                                                   | 30.8                                                                              |                                                                                   |                                                                                   | 17.0                                                                              |                                                                                   |                                                                                   | 30.3                                                                                |                                                                                     |                                                                                     | 40.6                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | B                                                                                 |                                                                                   |                                                                                   | C                                                                                   |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 19                                                                                | 264                                                                               |                                                                                   | 94                                                                                | 31                                                                                |                                                                                   | 23                                                                                | 75                                                                                  | 81                                                                                  | 89                                                                                  | 68                                                                                  |                                                                                     |
| Queue Length 95th (ft)  | 34                                                                                | 340                                                                               |                                                                                   | 148                                                                               | 108                                                                               |                                                                                   | 52                                                                                | 128                                                                                 | 125                                                                                 | 123                                                                                 | 88                                                                                  |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 305                                                                               |                                                                                   |                                                                                   | 623                                                                               |                                                                                   |                                                                                   | 532                                                                                 |                                                                                     |                                                                                     | 481                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 200                                                                               |                                                                                   |                                                                                   | 495                                                                               |                                                                                   |                                                                                   | 175                                                                               |                                                                                     |                                                                                     | 350                                                                                 |                                                                                     |                                                                                     |
| Base Capacity (vph)     | 433                                                                               | 1295                                                                              |                                                                                   | 584                                                                               | 1843                                                                              |                                                                                   | 241                                                                               | 218                                                                                 | 716                                                                                 | 304                                                                                 | 543                                                                                 |                                                                                     |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       | 0.16                                                                              | 0.64                                                                              |                                                                                   | 0.66                                                                              | 0.32                                                                              |                                                                                   | 0.19                                                                              | 0.50                                                                                | 0.35                                                                                | 0.53                                                                                | 0.42                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 11 (10%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 27.1

Intersection LOS: C

Intersection Capacity Utilization 72.7%

ICU Level of Service C

Analysis Period (min) 15

### Splits and Phases: 1: Route 11 & Route 31

|                                                                                        |                                                                                            |                                                                                          |                                                                                          |
|----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
|  Ø1 |  Ø2 (R) |  Ø3 |  Ø4 |
| 35 s                                                                                   | 40 s                                                                                       | 14 s                                                                                     | 21 s                                                                                     |
|  Ø5 |  Ø6 (R) |  Ø7 |  Ø8 |
| 14 s                                                                                   | 61 s                                                                                       | 16 s                                                                                     | 19 s                                                                                     |



# Lanes, Volumes, Timings

## 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |                                                                                   |  |                                                                                   |  |  |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |  |  |
| Traffic Volume (vph)       | 0                                                                                 | 643                                                                               | 376                                                                               | 836                                                                               | 751                                                                               | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   | 183                                                                                 | 1                                                                                   | 158                                                                                 |
| Future Volume (vph)        | 0                                                                                 | 643                                                                               | 376                                                                               | 836                                                                               | 751                                                                               | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   | 183                                                                                 | 1                                                                                   | 158                                                                                 |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                               | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 0                                                                                 |                                                                                   | 0                                                                                 | 150                                                                               |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                    | 0                                                                                   | 0                                                                                   |                                                                                     | 125                                                                                 |
| Storage Lanes              | 0                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                    | 0                                                                                   | 0                                                                                   |                                                                                     | 1                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                    |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 0                                                                                 | 3351                                                                              | 0                                                                                 | 1787                                                                              | 3574                                                                              | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 1775                                                                                | 1583                                                                                |
| Flt Permitted              |                                                                                   |                                                                                   |                                                                                   | 0.098                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 0.953                                                                               |                                                                                     |
| Satd. Flow (perm)          | 0                                                                                 | 3351                                                                              | 0                                                                                 | 184                                                                               | 3574                                                                              | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 1775                                                                                | 1583                                                                                |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                    | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   | 107                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 174                                                                                 |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 40                                                                                 |                                                                                     |                                                                                     | 40                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 703                                                                               |                                                                                   |                                                                                   | 360                                                                               |                                                                                   |                                                                                   | 622                                                                                |                                                                                     |                                                                                     | 505                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 13.7                                                                              |                                                                                   |                                                                                   | 7.0                                                                               |                                                                                   |                                                                                   | 10.6                                                                               |                                                                                     |                                                                                     | 8.6                                                                                 |                                                                                     |
| Confl. Peds. (#/hr)        |                                                                                   |                                                                                   | 1                                                                                 | 1                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Peak Hour Factor           | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.94                                                                              | 0.94                                                                              | 0.94                                                                              | 0.90                                                                              | 0.90                                                                               | 0.90                                                                                | 0.91                                                                                | 0.91                                                                                | 0.91                                                                                |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                 | 1%                                                                                  | 2%                                                                                  | 2%                                                                                  | 2%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 0                                                                                 | 1158                                                                              | 0                                                                                 | 889                                                                               | 799                                                                               | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 202                                                                                 | 174                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                 | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                               | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 0                                                                                  |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                  |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                 |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                    | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  |                                                                                   | NA                                                                                |                                                                                   | pm+pt                                                                             | NA                                                                                |                                                                                   |                                                                                   |                                                                                    |                                                                                     | Perm                                                                                | NA                                                                                  | Perm                                                                                |
| Protected Phases           |                                                                                   | 2                                                                                 |                                                                                   | 1 3                                                                               | 6                                                                                 |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |
| Permitted Phases           |                                                                                   |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     | 4                                                                                   |                                                                                     | 4                                                                                   |
| Detector Phase             |                                                                                   | 2                                                                                 |                                                                                   | 1 3                                                                               | 6                                                                                 |                                                                                   |                                                                                   |                                                                                    |                                                                                     | 4                                                                                   | 4                                                                                   | 4                                                                                   |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        |                                                                                   | 12.0                                                                              |                                                                                   |                                                                                   | 12.0                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 |
| Minimum Split (s)          |                                                                                   | 17.0                                                                              |                                                                                   |                                                                                   | 17.0                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     | 9.0                                                                                 | 9.0                                                                                 | 9.0                                                                                 |
| Total Split (s)            |                                                                                   | 36.0                                                                              |                                                                                   |                                                                                   | 91.0                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     | 19.0                                                                                | 19.0                                                                                | 19.0                                                                                |
| Total Split (%)            |                                                                                   | 32.7%                                                                             |                                                                                   |                                                                                   | 82.7%                                                                             |                                                                                   |                                                                                   |                                                                                    |                                                                                     | 17.3%                                                                               | 17.3%                                                                               | 17.3%                                                                               |
| Maximum Green (s)          |                                                                                   | 31.0                                                                              |                                                                                   |                                                                                   | 86.0                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     | 14.0                                                                                | 14.0                                                                                | 14.0                                                                                |
| Yellow Time (s)            |                                                                                   | 3.5                                                                               |                                                                                   |                                                                                   | 3.5                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 |
| All-Red Time (s)           |                                                                                   | 1.5                                                                               |                                                                                   |                                                                                   | 1.5                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     | 1.0                                                                                 | 1.0                                                                                 | 1.0                                                                                 |
| Lost Time Adjust (s)       |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |
| Total Lost Time (s)        |                                                                                   | 5.0                                                                               |                                                                                   |                                                                                   | 5.0                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |
| Lead/Lag                   |                                                                                   | Lag                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?         |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Vehicle Extension (s)      |                                                                                   | 3.0                                                                               |                                                                                   |                                                                                   | 3.0                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |
| Recall Mode                |                                                                                   | C-Min                                                                             |                                                                                   |                                                                                   | C-Min                                                                             |                                                                                   |                                                                                   |                                                                                    |                                                                                     | None                                                                                | None                                                                                | None                                                                                |
| Act Effect Green (s)       |                                                                                   | 31.0                                                                              |                                                                                   | 86.0                                                                              | 86.0                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 14.0                                                                                | 14.0                                                                                |
| Actuated g/C Ratio         |                                                                                   | 0.28                                                                              |                                                                                   | 0.78                                                                              | 0.78                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 0.13                                                                                | 0.13                                                                                |
| v/c Ratio                  |                                                                                   | 1.13                                                                              |                                                                                   | 1.11                                                                              | 0.29                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 0.90                                                                                | 0.49                                                                                |



# Lanes, Volumes, Timings

## 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

07/05/2022

| Lane Group                 | Ø1   | Ø3   |
|----------------------------|------|------|
| Lane Configurations        |      |      |
| Traffic Volume (vph)       |      |      |
| Future Volume (vph)        |      |      |
| Ideal Flow (vphpl)         |      |      |
| Storage Length (ft)        |      |      |
| Storage Lanes              |      |      |
| Taper Length (ft)          |      |      |
| Satd. Flow (prot)          |      |      |
| Flt Permitted              |      |      |
| Satd. Flow (perm)          |      |      |
| Right Turn on Red          |      |      |
| Satd. Flow (RTOR)          |      |      |
| Link Speed (mph)           |      |      |
| Link Distance (ft)         |      |      |
| Travel Time (s)            |      |      |
| Confl. Peds. (#/hr)        |      |      |
| Peak Hour Factor           |      |      |
| Heavy Vehicles (%)         |      |      |
| Shared Lane Traffic (%)    |      |      |
| Lane Group Flow (vph)      |      |      |
| Enter Blocked Intersection |      |      |
| Lane Alignment             |      |      |
| Median Width(ft)           |      |      |
| Link Offset(ft)            |      |      |
| Crosswalk Width(ft)        |      |      |
| Two way Left Turn Lane     |      |      |
| Headway Factor             |      |      |
| Turning Speed (mph)        |      |      |
| Turn Type                  |      |      |
| Protected Phases           | 1    | 3    |
| Permitted Phases           |      |      |
| Detector Phase             |      |      |
| Switch Phase               |      |      |
| Minimum Initial (s)        | 4.0  | 4.0  |
| Minimum Split (s)          | 9.0  | 9.0  |
| Total Split (s)            | 19.0 | 36.0 |
| Total Split (%)            | 17%  | 33%  |
| Maximum Green (s)          | 14.0 | 31.0 |
| Yellow Time (s)            | 3.5  | 3.5  |
| All-Red Time (s)           | 1.5  | 1.5  |
| Lost Time Adjust (s)       |      |      |
| Total Lost Time (s)        |      |      |
| Lead/Lag                   | Lead |      |
| Lead-Lag Optimize?         | Yes  |      |
| Vehicle Extension (s)      | 3.0  | 3.0  |
| Recall Mode                | None | None |
| Act Effect Green (s)       |      |      |
| Actuated g/C Ratio         |      |      |
| v/c Ratio                  |      |      |



# Lanes, Volumes, Timings

## 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Control Delay           |                                                                                   | 111.2                                                                             |                                                                                   | 88.9                                                                              | 1.9                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 86.7                                                                                | 11.8                                                                                |
| Queue Delay             |                                                                                   | 0.0                                                                               |                                                                                   | 3.8                                                                               | 0.7                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |
| Total Delay             |                                                                                   | 111.2                                                                             |                                                                                   | 92.6                                                                              | 2.6                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 86.7                                                                                | 11.8                                                                                |
| LOS                     |                                                                                   | F                                                                                 |                                                                                   | F                                                                                 | A                                                                                 |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | F                                                                                   | B                                                                                   |
| Approach Delay          |                                                                                   | 111.2                                                                             |                                                                                   |                                                                                   | 50.0                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 52.1                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | F                                                                                 |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Queue Length 50th (ft)  |                                                                                   | ~453                                                                              |                                                                                   | ~652                                                                              | 35                                                                                |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 142                                                                                 | 0                                                                                   |
| Queue Length 95th (ft)  |                                                                                   | #593                                                                              |                                                                                   | m#883                                                                             | m17                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | #278                                                                                | 62                                                                                  |
| Internal Link Dist (ft) |                                                                                   | 623                                                                               |                                                                                   |                                                                                   | 280                                                                               |                                                                                   |                                                                                   | 542                                                                                 |                                                                                     |                                                                                     | 425                                                                                 |                                                                                     |
| Turn Bay Length (ft)    |                                                                                   |                                                                                   |                                                                                   | 150                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 125                                                                                 |
| Base Capacity (vph)     |                                                                                   | 1021                                                                              |                                                                                   | 799                                                                               | 2794                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 225                                                                                 | 353                                                                                 |
| Starvation Cap Reductn  |                                                                                   | 0                                                                                 |                                                                                   | 329                                                                               | 1554                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 0                                                                                   | 0                                                                                   |
| Spillback Cap Reductn   |                                                                                   | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 0                                                                                   | 0                                                                                   |
| Storage Cap Reductn     |                                                                                   | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 0                                                                                   | 0                                                                                   |
| Reduced v/c Ratio       |                                                                                   | 1.13                                                                              |                                                                                   | 1.89                                                                              | 0.64                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 0.90                                                                                | 0.49                                                                                |

### Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 97 (88%), Referenced to phase 2:EBT and 6:WBTL, Start of Yellow

Natural Cycle: 140

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.13

Intersection Signal Delay: 72.2

Intersection LOS: E

Intersection Capacity Utilization 98.9%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

### Splits and Phases: 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

|                                                                                            |                                                                                            |                                                                                        |                                                                                          |
|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
|  Ø1     |  Ø2 (R) |  Ø3 |  Ø4 |
| 19 s                                                                                       | 36 s                                                                                       | 36 s                                                                                   | 19 s                                                                                     |
|  Ø6 (R) |                                                                                            |                                                                                        |                                                                                          |
| 91 s                                                                                       |                                                                                            |                                                                                        |                                                                                          |



## Lanes, Volumes, Timings

### 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

07/05/2022

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| Lane Group | Ø1 | Ø3 |
|------------|----|----|
|------------|----|----|

---

Control Delay

Queue Delay

Total Delay

LOS

Approach Delay

Approach LOS

Queue Length 50th (ft)

Queue Length 95th (ft)

Internal Link Dist (ft)

Turn Bay Length (ft)

Base Capacity (vph)

Starvation Cap Reductn

Spillback Cap Reductn

Storage Cap Reductn

Reduced v/c Ratio

Intersection Summary

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# Lanes, Volumes, Timings

## 3: I-81 NB Offramp/Pardee Road & Route 31

07/05/2022

|                            |  |  |  |  |  |  |    |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |  |  |                                                                                   |                                                                                   |  |                                                                                   |  |  |  |                                                                                     |                                                                                     |  |
| Traffic Volume (vph)       | 95                                                                                | 731                                                                               | 0                                                                                 | 0                                                                                 | 1282                                                                              | 145                                                                               | 159                                                                                 | 64                                                                                  | 455                                                                                 | 0                                                                                   | 0                                                                                   | 146                                                                                 |
| Future Volume (vph)        | 95                                                                                | 731                                                                               | 0                                                                                 | 0                                                                                 | 1282                                                                              | 145                                                                               | 159                                                                                 | 64                                                                                  | 455                                                                                 | 0                                                                                   | 0                                                                                   | 146                                                                                 |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 85                                                                                |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 310                                                                                 |                                                                                     | 100                                                                                 | 0                                                                                   |                                                                                     | 0                                                                                   |
| Storage Lanes              | 1                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                   |                                                                                     | 1                                                                                   | 0                                                                                   |                                                                                     | 1                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                  |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 1736                                                                              | 3471                                                                              | 0                                                                                 | 0                                                                                 | 3445                                                                              | 0                                                                                 | 1719                                                                                | 1810                                                                                | 1538                                                                                | 0                                                                                   | 0                                                                                   | 1536                                                                                |
| Flt Permitted              | 0.066                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.950                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Satd. Flow (perm)          | 121                                                                               | 3471                                                                              | 0                                                                                 | 0                                                                                 | 3445                                                                              | 0                                                                                 | 1717                                                                                | 1810                                                                                | 1518                                                                                | 0                                                                                   | 0                                                                                   | 1536                                                                                |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                     |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 13                                                                                |                                                                                   |                                                                                     |                                                                                     | 174                                                                                 |                                                                                     |                                                                                     | 183                                                                                 |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                     | 40                                                                                  |                                                                                     |                                                                                     | 55                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 360                                                                               |                                                                                   |                                                                                   | 1082                                                                              |                                                                                   |                                                                                     | 639                                                                                 |                                                                                     |                                                                                     | 500                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 7.0                                                                               |                                                                                   |                                                                                   | 21.1                                                                              |                                                                                   |                                                                                     | 10.9                                                                                |                                                                                     |                                                                                     | 6.2                                                                                 |                                                                                     |
| Confl. Peds. (#/hr)        | 1                                                                                 |                                                                                   | 1                                                                                 | 1                                                                                 |                                                                                   | 1                                                                                 | 1                                                                                   |                                                                                     | 1                                                                                   | 1                                                                                   |                                                                                     | 1                                                                                   |
| Peak Hour Factor           | 0.83                                                                              | 0.83                                                                              | 0.83                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.89                                                                                | 0.89                                                                                | 0.89                                                                                | 0.84                                                                                | 0.84                                                                                | 0.84                                                                                |
| Heavy Vehicles (%)         | 4%                                                                                | 4%                                                                                | 4%                                                                                | 3%                                                                                | 3%                                                                                | 3%                                                                                | 5%                                                                                  | 5%                                                                                  | 5%                                                                                  | 7%                                                                                  | 7%                                                                                  | 7%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 114                                                                               | 881                                                                               | 0                                                                                 | 0                                                                                 | 1585                                                                              | 0                                                                                 | 179                                                                                 | 72                                                                                  | 511                                                                                 | 0                                                                                   | 0                                                                                   | 174                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                                | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                     | 12                                                                                  |                                                                                     |                                                                                     | 12                                                                                  |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                     | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                     | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                  |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | pm+pt                                                                             | NA                                                                                |                                                                                   |                                                                                   | NA                                                                                |                                                                                   | Perm                                                                                | NA                                                                                  | Perm                                                                                |                                                                                     |                                                                                     | Over                                                                                |
| Protected Phases           | 5                                                                                 | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                     | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     | 5                                                                                   |
| Permitted Phases           | 2                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 8                                                                                   |                                                                                     | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Detector Phase             | 5                                                                                 | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   | 8                                                                                   | 8                                                                                   | 8                                                                                   |                                                                                     |                                                                                     | 5                                                                                   |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 4.0                                                                               | 12.0                                                                              |                                                                                   |                                                                                   | 12.0                                                                              |                                                                                   | 6.0                                                                                 | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |                                                                                     | 4.0                                                                                 |
| Minimum Split (s)          | 9.0                                                                               | 17.5                                                                              |                                                                                   |                                                                                   | 17.5                                                                              |                                                                                   | 12.0                                                                                | 12.0                                                                                | 12.0                                                                                |                                                                                     |                                                                                     | 9.0                                                                                 |
| Total Split (s)            | 24.0                                                                              | 75.0                                                                              |                                                                                   |                                                                                   | 51.0                                                                              |                                                                                   | 35.0                                                                                | 35.0                                                                                | 35.0                                                                                |                                                                                     |                                                                                     | 24.0                                                                                |
| Total Split (%)            | 21.8%                                                                             | 68.2%                                                                             |                                                                                   |                                                                                   | 46.4%                                                                             |                                                                                   | 31.8%                                                                               | 31.8%                                                                               | 31.8%                                                                               |                                                                                     |                                                                                     | 21.8%                                                                               |
| Maximum Green (s)          | 19.0                                                                              | 69.5                                                                              |                                                                                   |                                                                                   | 45.5                                                                              |                                                                                   | 29.0                                                                                | 29.0                                                                                | 29.0                                                                                |                                                                                     |                                                                                     | 19.0                                                                                |
| Yellow Time (s)            | 3.0                                                                               | 3.5                                                                               |                                                                                   |                                                                                   | 3.5                                                                               |                                                                                   | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 |                                                                                     |                                                                                     | 3.0                                                                                 |
| All-Red Time (s)           | 2.0                                                                               | 2.0                                                                               |                                                                                   |                                                                                   | 2.0                                                                               |                                                                                   | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 |                                                                                     |                                                                                     | 2.0                                                                                 |
| Lost Time Adjust (s)       | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |                                                                                     | 0.0                                                                                 |
| Total Lost Time (s)        | 5.0                                                                               | 5.5                                                                               |                                                                                   |                                                                                   | 5.5                                                                               |                                                                                   | 6.0                                                                                 | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |                                                                                     | 5.0                                                                                 |
| Lead/Lag                   | Lead                                                                              |                                                                                   |                                                                                   |                                                                                   | Lag                                                                               |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | Lead                                                                                |
| Lead-Lag Optimize?         | Yes                                                                               |                                                                                   |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | Yes                                                                                 |
| Vehicle Extension (s)      | 3.0                                                                               | 3.0                                                                               |                                                                                   |                                                                                   | 3.0                                                                               |                                                                                   | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |                                                                                     | 3.0                                                                                 |
| Recall Mode                | None                                                                              | C-Min                                                                             |                                                                                   |                                                                                   | C-Min                                                                             |                                                                                   | None                                                                                | None                                                                                | None                                                                                |                                                                                     |                                                                                     | None                                                                                |
| Act Effct Green (s)        | 70.3                                                                              | 69.8                                                                              |                                                                                   |                                                                                   | 55.9                                                                              |                                                                                   | 28.7                                                                                | 28.7                                                                                | 28.7                                                                                |                                                                                     |                                                                                     | 8.9                                                                                 |
| Actuated g/C Ratio         | 0.64                                                                              | 0.63                                                                              |                                                                                   |                                                                                   | 0.51                                                                              |                                                                                   | 0.26                                                                                | 0.26                                                                                | 0.26                                                                                |                                                                                     |                                                                                     | 0.08                                                                                |
| v/c Ratio                  | 0.55                                                                              | 0.40                                                                              |                                                                                   |                                                                                   | 0.90                                                                              |                                                                                   | 0.40                                                                                | 0.15                                                                                | 0.98                                                                                |                                                                                     |                                                                                     | 0.60                                                                                |



# Lanes, Volumes, Timings

## 3: I-81 NB Offramp/Pardee Road & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Control Delay           | 26.5                                                                              | 14.9                                                                              |                                                                                   |                                                                                   | 33.4                                                                              |                                                                                   | 36.7                                                                              | 32.2                                                                                | 61.2                                                                                |                                                                                     |                                                                                     | 15.0                                                                                |
| Queue Delay             | 0.0                                                                               | 1.5                                                                               |                                                                                   |                                                                                   | 4.9                                                                               |                                                                                   | 1.1                                                                               | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |                                                                                     | 0.1                                                                                 |
| Total Delay             | 26.5                                                                              | 16.4                                                                              |                                                                                   |                                                                                   | 38.3                                                                              |                                                                                   | 37.7                                                                              | 32.2                                                                                | 61.2                                                                                |                                                                                     |                                                                                     | 15.1                                                                                |
| LOS                     | C                                                                                 | B                                                                                 |                                                                                   |                                                                                   | D                                                                                 |                                                                                   | D                                                                                 | C                                                                                   | E                                                                                   |                                                                                     |                                                                                     | B                                                                                   |
| Approach Delay          |                                                                                   | 17.5                                                                              |                                                                                   |                                                                                   | 38.3                                                                              |                                                                                   |                                                                                   | 52.9                                                                                |                                                                                     |                                                                                     | 15.1                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | B                                                                                 |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | D                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 51                                                                                | 148                                                                               |                                                                                   |                                                                                   | 511                                                                               |                                                                                   | 104                                                                               | 39                                                                                  | 254                                                                                 |                                                                                     |                                                                                     | 0                                                                                   |
| Queue Length 95th (ft)  | m49                                                                               | m138                                                                              |                                                                                   |                                                                                   | #734                                                                              |                                                                                   | 168                                                                               | 76                                                                                  | #465                                                                                |                                                                                     |                                                                                     | 44                                                                                  |
| Internal Link Dist (ft) |                                                                                   | 280                                                                               |                                                                                   |                                                                                   | 1002                                                                              |                                                                                   |                                                                                   | 559                                                                                 |                                                                                     |                                                                                     | 420                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 85                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 310                                                                               |                                                                                     | 100                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| Base Capacity (vph)     | 355                                                                               | 2204                                                                              |                                                                                   |                                                                                   | 1757                                                                              |                                                                                   | 452                                                                               | 477                                                                                 | 528                                                                                 |                                                                                     |                                                                                     | 416                                                                                 |
| Starvation Cap Reductn  | 0                                                                                 | 1073                                                                              |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 130                                                                               |                                                                                   | 118                                                                               | 0                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 19                                                                                  |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |
| Reduced v/c Ratio       | 0.32                                                                              | 0.78                                                                              |                                                                                   |                                                                                   | 0.97                                                                              |                                                                                   | 0.54                                                                              | 0.15                                                                                | 0.97                                                                                |                                                                                     |                                                                                     | 0.44                                                                                |

### Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 87 (79%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay: 34.5

Intersection LOS: C

Intersection Capacity Utilization 71.8%

ICU Level of Service C

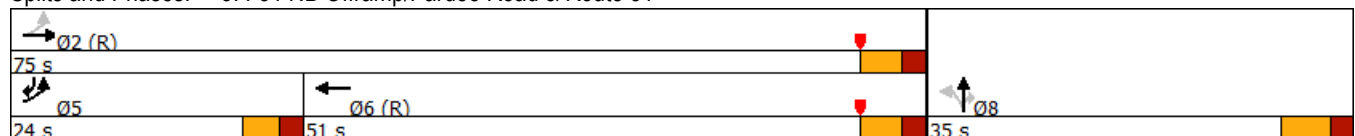
Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: I-81 NB Offramp/Pardee Road & Route 31





# Lanes, Volumes, Timings

## 4: Route 31 & Lakeshore Road

07/05/2022

|                            |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | WBT                                                                               | WBR                                                                               | SBL                                                                               | SBR                                                                               |
| Lane Configurations        |  |  |  |                                                                                   |  |                                                                                   |
| Traffic Volume (vph)       | 249                                                                               | 937                                                                               | 685                                                                               | 1                                                                                 | 0                                                                                 | 742                                                                               |
| Future Volume (vph)        | 249                                                                               | 937                                                                               | 685                                                                               | 1                                                                                 | 0                                                                                 | 742                                                                               |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Storage Length (ft)        | 225                                                                               |                                                                                   |                                                                                   | 0                                                                                 | 0                                                                                 | 0                                                                                 |
| Storage Lanes              | 1                                                                                 |                                                                                   |                                                                                   | 0                                                                                 | 1                                                                                 | 0                                                                                 |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |
| Satd. Flow (prot)          | 1770                                                                              | 3539                                                                              | 1845                                                                              | 0                                                                                 | 1627                                                                              | 0                                                                                 |
| Flt Permitted              | 0.950                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Satd. Flow (perm)          | 1770                                                                              | 3539                                                                              | 1845                                                                              | 0                                                                                 | 1627                                                                              | 0                                                                                 |
| Link Speed (mph)           |                                                                                   | 35                                                                                | 35                                                                                |                                                                                   | 35                                                                                |                                                                                   |
| Link Distance (ft)         |                                                                                   | 1082                                                                              | 959                                                                               |                                                                                   | 962                                                                               |                                                                                   |
| Travel Time (s)            |                                                                                   | 21.1                                                                              | 18.7                                                                              |                                                                                   | 18.7                                                                              |                                                                                   |
| Confl. Peds. (#/hr)        | 1                                                                                 |                                                                                   |                                                                                   | 1                                                                                 |                                                                                   | 1                                                                                 |
| Peak Hour Factor           | 0.79                                                                              | 0.79                                                                              | 0.83                                                                              | 0.83                                                                              | 0.93                                                                              | 0.93                                                                              |
| Heavy Vehicles (%)         | 2%                                                                                | 2%                                                                                | 3%                                                                                | 3%                                                                                | 1%                                                                                | 1%                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)      | 315                                                                               | 1186                                                                              | 826                                                                               | 0                                                                                 | 798                                                                               | 0                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment             | Left                                                                              | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Right                                                                             |
| Median Width(ft)           |                                                                                   | 12                                                                                | 12                                                                                |                                                                                   | 12                                                                                |                                                                                   |
| Link Offset(ft)            |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 |                                                                                   |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                | 16                                                                                |                                                                                   | 16                                                                                |                                                                                   |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (mph)        | 15                                                                                |                                                                                   |                                                                                   | 9                                                                                 | 15                                                                                | 9                                                                                 |
| Sign Control               |                                                                                   | Free                                                                              | Free                                                                              |                                                                                   | Stop                                                                              |                                                                                   |

### Intersection Summary

Area Type: Other  
Control Type: Unsignalized  
Intersection Capacity Utilization 106.0%  
Analysis Period (min) 15

ICU Level of Service G



HCM 6th TWSC  
4: Route 31 & Lakeshore Road

07/05/2022

Intersection

Int Delay, s/veh 141.6

| Movement                 | EBL                                                                               | EBT                                                                               | WBT                                                                               | WBR  | SBL                                                                               | SBR  |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|------|
| Lane Configurations      |  |  |  |      |  |      |
| Traffic Vol, veh/h       | 249                                                                               | 937                                                                               | 685                                                                               | 1    | 0                                                                                 | 742  |
| Future Vol, veh/h        | 249                                                                               | 937                                                                               | 685                                                                               | 1    | 0                                                                                 | 742  |
| Conflicting Peds, #/hr   | 1                                                                                 | 0                                                                                 | 0                                                                                 | 1    | 0                                                                                 | 1    |
| Sign Control             | Free                                                                              | Free                                                                              | Free                                                                              | Free | Stop                                                                              | Stop |
| RT Channelized           | -                                                                                 | None                                                                              | -                                                                                 | None | -                                                                                 | None |
| Storage Length           | 225                                                                               | -                                                                                 | -                                                                                 | -    | 0                                                                                 | -    |
| Veh in Median Storage, # | -                                                                                 | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Grade, %                 | -                                                                                 | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Peak Hour Factor         | 79                                                                                | 79                                                                                | 83                                                                                | 83   | 93                                                                                | 93   |
| Heavy Vehicles, %        | 2                                                                                 | 2                                                                                 | 3                                                                                 | 3    | 1                                                                                 | 1    |
| Mvmt Flow                | 315                                                                               | 1186                                                                              | 825                                                                               | 1    | 0                                                                                 | 798  |

| Major/Minor          | Major1 | Major2 | Minor2          |
|----------------------|--------|--------|-----------------|
| Conflicting Flow All | 827    | 0      | 0 2050 828      |
| Stage 1              | -      | -      | - 827 -         |
| Stage 2              | -      | -      | - 1223 -        |
| Critical Hdwy        | 4.13   | -      | - 6.615 6.215   |
| Critical Hdwy Stg 1  | -      | -      | - 5.415 -       |
| Critical Hdwy Stg 2  | -      | -      | - 5.815 -       |
| Follow-up Hdwy       | 2.219  | -      | - 3.5095 3.3095 |
| Pot Cap-1 Maneuver   | 802    | -      | - 55 ~ 372      |
| Stage 1              | -      | -      | - 431 -         |
| Stage 2              | -      | -      | - 244 -         |
| Platoon blocked, %   |        | -      | -               |
| Mov Cap-1 Maneuver   | 801    | -      | - 33 ~ 371      |
| Mov Cap-2 Maneuver   | -      | -      | - 33 -          |
| Stage 1              | -      | -      | - 261 -         |
| Stage 2              | -      | -      | - 244 -         |

| Approach             | EB  | WB | SB     |
|----------------------|-----|----|--------|
| HCM Control Delay, s | 2.6 | 0  | \$ 550 |
| HCM LOS              |     |    | F      |

| Minor Lane/Major Mvmt | EBL   | EBT | WBT | WBR | SBLn1  |
|-----------------------|-------|-----|-----|-----|--------|
| Capacity (veh/h)      | 801   | -   | -   | -   | 371    |
| HCM Lane V/C Ratio    | 0.393 | -   | -   | -   | 2.151  |
| HCM Control Delay (s) | 12.4  | -   | -   | -   | \$ 550 |
| HCM Lane LOS          | B     | -   | -   | -   | F      |
| HCM 95th %tile Q(veh) | 1.9   | -   | -   | -   | 58.5   |

Notes

~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon



Lanes, Volumes, Timings  
5: South Bay Road & Route 31

07/05/2022

|                            |  |  |  |  |  |  |   |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |  |  |                                                                                   |  |  |                                                                                   |  |  |                                                                                     |  |  |                                                                                     |
| Traffic Volume (vph)       | 62                                                                                | 221                                                                               | 70                                                                                | 165                                                                               | 226                                                                               | 6                                                                                 | 64                                                                                 | 188                                                                                 | 73                                                                                  | 7                                                                                   | 423                                                                                 | 115                                                                                 |
| Future Volume (vph)        | 62                                                                                | 221                                                                               | 70                                                                                | 165                                                                               | 226                                                                               | 6                                                                                 | 64                                                                                 | 188                                                                                 | 73                                                                                  | 7                                                                                   | 423                                                                                 | 115                                                                                 |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                               | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 225                                                                               |                                                                                   | 0                                                                                 | 225                                                                               |                                                                                   | 0                                                                                 | 280                                                                                |                                                                                     | 0                                                                                   | 225                                                                                 |                                                                                     | 0                                                                                   |
| Storage Lanes              | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                  |                                                                                     | 0                                                                                   | 1                                                                                   |                                                                                     | 0                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                 |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 1719                                                                              | 1744                                                                              | 0                                                                                 | 1770                                                                              | 1855                                                                              | 0                                                                                 | 1719                                                                               | 1734                                                                                | 0                                                                                   | 1770                                                                                | 1803                                                                                | 0                                                                                   |
| Flt Permitted              | 0.602                                                                             |                                                                                   |                                                                                   | 0.347                                                                             |                                                                                   |                                                                                   | 0.111                                                                              |                                                                                     |                                                                                     | 0.566                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)          | 1089                                                                              | 1744                                                                              | 0                                                                                 | 646                                                                               | 1855                                                                              | 0                                                                                 | 201                                                                                | 1734                                                                                | 0                                                                                   | 1054                                                                                | 1803                                                                                | 0                                                                                   |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                    |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 1                                                                                 |                                                                                   |                                                                                    | 17                                                                                  |                                                                                     |                                                                                     | 12                                                                                  |                                                                                     |
| Link Speed (mph)           |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 55                                                                                |                                                                                   |                                                                                    | 45                                                                                  |                                                                                     |                                                                                     | 45                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 788                                                                               |                                                                                   |                                                                                   | 825                                                                               |                                                                                   |                                                                                    | 794                                                                                 |                                                                                     |                                                                                     | 652                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 11.9                                                                              |                                                                                   |                                                                                   | 10.2                                                                              |                                                                                   |                                                                                    | 12.0                                                                                |                                                                                     |                                                                                     | 9.9                                                                                 |                                                                                     |
| Peak Hour Factor           | 0.91                                                                              | 0.91                                                                              | 0.91                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.84                                                                               | 0.84                                                                                | 0.84                                                                                | 0.89                                                                                | 0.89                                                                                | 0.89                                                                                |
| Heavy Vehicles (%)         | 5%                                                                                | 5%                                                                                | 5%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 5%                                                                                 | 5%                                                                                  | 5%                                                                                  | 2%                                                                                  | 2%                                                                                  | 2%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 68                                                                                | 320                                                                               | 0                                                                                 | 179                                                                               | 253                                                                               | 0                                                                                 | 76                                                                                 | 311                                                                                 | 0                                                                                   | 8                                                                                   | 604                                                                                 | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                 | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                               | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                    | 12                                                                                  |                                                                                     |                                                                                     | 12                                                                                  |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                    | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                    | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                 |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                              | NA                                                                                  |                                                                                     | pm+pt                                                                               | NA                                                                                  |                                                                                     |
| Protected Phases           | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 3                                                                                  | 8                                                                                   |                                                                                     | 7                                                                                   | 4                                                                                   |                                                                                     |
| Permitted Phases           | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                  |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |                                                                                     |
| Detector Phase             | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 3                                                                                  | 8                                                                                   |                                                                                     | 7                                                                                   | 4                                                                                   |                                                                                     |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 6.0                                                                               | 15.0                                                                              |                                                                                   | 6.0                                                                               | 15.0                                                                              |                                                                                   | 6.0                                                                                | 10.0                                                                                |                                                                                     | 6.0                                                                                 | 10.0                                                                                |                                                                                     |
| Minimum Split (s)          | 10.5                                                                              | 22.8                                                                              |                                                                                   | 10.5                                                                              | 22.8                                                                              |                                                                                   | 10.5                                                                               | 16.8                                                                                |                                                                                     | 10.5                                                                                | 16.8                                                                                |                                                                                     |
| Total Split (s)            | 15.0                                                                              | 45.0                                                                              |                                                                                   | 15.0                                                                              | 45.0                                                                              |                                                                                   | 15.0                                                                               | 35.0                                                                                |                                                                                     | 15.0                                                                                | 35.0                                                                                |                                                                                     |
| Total Split (%)            | 13.6%                                                                             | 40.9%                                                                             |                                                                                   | 13.6%                                                                             | 40.9%                                                                             |                                                                                   | 13.6%                                                                              | 31.8%                                                                               |                                                                                     | 13.6%                                                                               | 31.8%                                                                               |                                                                                     |
| Maximum Green (s)          | 10.5                                                                              | 37.2                                                                              |                                                                                   | 10.5                                                                              | 37.2                                                                              |                                                                                   | 10.5                                                                               | 28.2                                                                                |                                                                                     | 10.5                                                                                | 28.2                                                                                |                                                                                     |
| Yellow Time (s)            | 3.5                                                                               | 4.9                                                                               |                                                                                   | 3.5                                                                               | 4.9                                                                               |                                                                                   | 3.5                                                                                | 4.9                                                                                 |                                                                                     | 3.5                                                                                 | 4.9                                                                                 |                                                                                     |
| All-Red Time (s)           | 1.0                                                                               | 2.9                                                                               |                                                                                   | 1.0                                                                               | 2.9                                                                               |                                                                                   | 1.0                                                                                | 1.9                                                                                 |                                                                                     | 1.0                                                                                 | 1.9                                                                                 |                                                                                     |
| Lost Time Adjust (s)       | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                                | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)        | 4.5                                                                               | 7.8                                                                               |                                                                                   | 4.5                                                                               | 7.8                                                                               |                                                                                   | 4.5                                                                                | 6.8                                                                                 |                                                                                     | 4.5                                                                                 | 6.8                                                                                 |                                                                                     |
| Lead/Lag                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                               | Lag                                                                                 |                                                                                     | Lead                                                                                | Lag                                                                                 |                                                                                     |
| Lead-Lag Optimize?         | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                                | Yes                                                                                 |                                                                                     | Yes                                                                                 | Yes                                                                                 |                                                                                     |
| Vehicle Extension (s)      | 3.0                                                                               | 6.0                                                                               |                                                                                   | 3.0                                                                               | 6.0                                                                               |                                                                                   | 3.0                                                                                | 6.0                                                                                 |                                                                                     | 3.0                                                                                 | 6.0                                                                                 |                                                                                     |
| Minimum Gap (s)            | 3.0                                                                               | 2.0                                                                               |                                                                                   | 3.0                                                                               | 2.0                                                                               |                                                                                   | 3.0                                                                                | 2.0                                                                                 |                                                                                     | 3.0                                                                                 | 2.0                                                                                 |                                                                                     |
| Time Before Reduce (s)     | 0.0                                                                               | 10.0                                                                              |                                                                                   | 0.0                                                                               | 10.0                                                                              |                                                                                   | 0.0                                                                                | 10.0                                                                                |                                                                                     | 0.0                                                                                 | 10.0                                                                                |                                                                                     |
| Time To Reduce (s)         | 0.0                                                                               | 15.0                                                                              |                                                                                   | 0.0                                                                               | 15.0                                                                              |                                                                                   | 0.0                                                                                | 15.0                                                                                |                                                                                     | 0.0                                                                                 | 15.0                                                                                |                                                                                     |
| Recall Mode                | None                                                                              | Min                                                                               |                                                                                   | None                                                                              | Min                                                                               |                                                                                   | None                                                                               | None                                                                                |                                                                                     | None                                                                                | None                                                                                |                                                                                     |
| Act Effect Green (s)       | 35.2                                                                              | 23.9                                                                              |                                                                                   | 39.9                                                                              | 28.7                                                                              |                                                                                   | 41.0                                                                               | 36.8                                                                                |                                                                                     | 35.9                                                                                | 28.8                                                                                |                                                                                     |



# Lanes, Volumes, Timings

## 5: South Bay Road & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Actuated g/C Ratio      | 0.38                                                                              | 0.26                                                                              |                                                                                   | 0.43                                                                              | 0.31                                                                              |                                                                                   | 0.45                                                                               | 0.40                                                                                |                                                                                     | 0.39                                                                                | 0.31                                                                                |                                                                                     |
| v/c Ratio               | 0.14                                                                              | 0.69                                                                              |                                                                                   | 0.45                                                                              | 0.44                                                                              |                                                                                   | 0.34                                                                               | 0.44                                                                                |                                                                                     | 0.02                                                                                | 1.06                                                                                |                                                                                     |
| Control Delay           | 15.8                                                                              | 37.9                                                                              |                                                                                   | 19.5                                                                              | 30.0                                                                              |                                                                                   | 20.8                                                                               | 23.8                                                                                |                                                                                     | 17.0                                                                                | 87.0                                                                                |                                                                                     |
| Queue Delay             | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                                | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Delay             | 15.8                                                                              | 37.9                                                                              |                                                                                   | 19.5                                                                              | 30.0                                                                              |                                                                                   | 20.8                                                                               | 23.8                                                                                |                                                                                     | 17.0                                                                                | 87.0                                                                                |                                                                                     |
| LOS                     | B                                                                                 | D                                                                                 |                                                                                   | B                                                                                 | C                                                                                 |                                                                                   | C                                                                                  | C                                                                                   |                                                                                     | B                                                                                   | F                                                                                   |                                                                                     |
| Approach Delay          |                                                                                   | 34.0                                                                              |                                                                                   |                                                                                   | 25.6                                                                              |                                                                                   |                                                                                    | 23.2                                                                                |                                                                                     |                                                                                     | 86.1                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                    | C                                                                                   |                                                                                     |                                                                                     | F                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 23                                                                                | 166                                                                               |                                                                                   | 64                                                                                | 125                                                                               |                                                                                   | 25                                                                                 | 117                                                                                 |                                                                                     | 3                                                                                   | ~410                                                                                |                                                                                     |
| Queue Length 95th (ft)  | 48                                                                                | 263                                                                               |                                                                                   | 110                                                                               | 208                                                                               |                                                                                   | 57                                                                                 | 241                                                                                 |                                                                                     | 12                                                                                  | #727                                                                                |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 708                                                                               |                                                                                   |                                                                                   | 745                                                                               |                                                                                   |                                                                                    | 714                                                                                 |                                                                                     |                                                                                     | 572                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 225                                                                               |                                                                                   |                                                                                   | 225                                                                               |                                                                                   |                                                                                   | 280                                                                                |                                                                                     |                                                                                     | 225                                                                                 |                                                                                     |                                                                                     |
| Base Capacity (vph)     | 523                                                                               | 729                                                                               |                                                                                   | 411                                                                               | 766                                                                               |                                                                                   | 266                                                                                | 704                                                                                 |                                                                                     | 531                                                                                 | 572                                                                                 |                                                                                     |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       | 0.13                                                                              | 0.44                                                                              |                                                                                   | 0.44                                                                              | 0.33                                                                              |                                                                                   | 0.29                                                                               | 0.44                                                                                |                                                                                     | 0.02                                                                                | 1.06                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 92

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.06

Intersection Signal Delay: 47.2

Intersection LOS: D

Intersection Capacity Utilization 79.0%

ICU Level of Service D

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

### Splits and Phases: 5: South Bay Road & Route 31

|                                                                                        |                                                                                        |                                                                                        |                                                                                          |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
|  Ø1 |  Ø2 |  Ø3 |  Ø4 |
| 15 s                                                                                   | 45 s                                                                                   | 15 s                                                                                   | 35 s                                                                                     |
|  Ø5 |  Ø6 |  Ø7 |  Ø8 |
| 15 s                                                                                   | 45 s                                                                                   | 15 s                                                                                   | 35 s                                                                                     |



# Lanes, Volumes, Timings

## 6: Cicero Center Road & Route 31

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (vph)       | 35                                                                                | 241                                                                               | 14                                                                                | 8                                                                                 | 274                                                                               | 20                                                                                | 9                                                                                 | 8                                                                                   | 5                                                                                   | 36                                                                                  | 29                                                                                  | 78                                                                                  |
| Future Volume (vph)        | 35                                                                                | 241                                                                               | 14                                                                                | 8                                                                                 | 274                                                                               | 20                                                                                | 9                                                                                 | 8                                                                                   | 5                                                                                   | 36                                                                                  | 29                                                                                  | 78                                                                                  |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Satd. Flow (prot)          | 0                                                                                 | 1840                                                                              | 0                                                                                 | 0                                                                                 | 1844                                                                              | 0                                                                                 | 0                                                                                 | 1785                                                                                | 0                                                                                   | 0                                                                                   | 1721                                                                                | 0                                                                                   |
| Flt Permitted              |                                                                                   | 0.934                                                                             |                                                                                   |                                                                                   | 0.990                                                                             |                                                                                   |                                                                                   | 0.840                                                                               |                                                                                     |                                                                                     | 0.906                                                                               |                                                                                     |
| Satd. Flow (perm)          | 0                                                                                 | 1729                                                                              | 0                                                                                 | 0                                                                                 | 1828                                                                              | 0                                                                                 | 0                                                                                 | 1530                                                                                | 0                                                                                   | 0                                                                                   | 1578                                                                                | 0                                                                                   |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   | 7                                                                                 |                                                                                   |                                                                                   | 10                                                                                |                                                                                   |                                                                                   | 6                                                                                   |                                                                                     |                                                                                     | 108                                                                                 |                                                                                     |
| Link Speed (mph)           |                                                                                   | 55                                                                                |                                                                                   |                                                                                   | 55                                                                                |                                                                                   |                                                                                   | 55                                                                                  |                                                                                     |                                                                                     | 55                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 583                                                                               |                                                                                   |                                                                                   | 608                                                                               |                                                                                   |                                                                                   | 500                                                                                 |                                                                                     |                                                                                     | 505                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 7.2                                                                               |                                                                                   |                                                                                   | 7.5                                                                               |                                                                                   |                                                                                   | 6.2                                                                                 |                                                                                     |                                                                                     | 6.3                                                                                 |                                                                                     |
| Peak Hour Factor           | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                                | 0.90                                                                                | 0.72                                                                                | 0.72                                                                                | 0.72                                                                                |
| Heavy Vehicles (%)         | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 1%                                                                                | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 0                                                                                 | 312                                                                               | 0                                                                                 | 0                                                                                 | 335                                                                               | 0                                                                                 | 0                                                                                 | 25                                                                                  | 0                                                                                   | 0                                                                                   | 198                                                                                 | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                  |                                                                                     | Perm                                                                                | NA                                                                                  |                                                                                     |
| Protected Phases           |                                                                                   | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                   |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |
| Permitted Phases           | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |                                                                                     |
| Detector Phase             | 2                                                                                 | 2                                                                                 |                                                                                   | 6                                                                                 | 6                                                                                 |                                                                                   | 8                                                                                 | 8                                                                                   |                                                                                     | 4                                                                                   | 4                                                                                   |                                                                                     |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 15.0                                                                              | 15.0                                                                              |                                                                                   | 15.0                                                                              | 15.0                                                                              |                                                                                   | 7.0                                                                               | 7.0                                                                                 |                                                                                     | 7.0                                                                                 | 7.0                                                                                 |                                                                                     |
| Minimum Split (s)          | 21.0                                                                              | 21.0                                                                              |                                                                                   | 21.0                                                                              | 21.0                                                                              |                                                                                   | 12.0                                                                              | 12.0                                                                                |                                                                                     | 12.0                                                                                | 12.0                                                                                |                                                                                     |
| Total Split (s)            | 30.0                                                                              | 30.0                                                                              |                                                                                   | 30.0                                                                              | 30.0                                                                              |                                                                                   | 20.0                                                                              | 20.0                                                                                |                                                                                     | 20.0                                                                                | 20.0                                                                                |                                                                                     |
| Total Split (%)            | 60.0%                                                                             | 60.0%                                                                             |                                                                                   | 60.0%                                                                             | 60.0%                                                                             |                                                                                   | 40.0%                                                                             | 40.0%                                                                               |                                                                                     | 40.0%                                                                               | 40.0%                                                                               |                                                                                     |
| Maximum Green (s)          | 24.0                                                                              | 24.0                                                                              |                                                                                   | 24.0                                                                              | 24.0                                                                              |                                                                                   | 15.0                                                                              | 15.0                                                                                |                                                                                     | 15.0                                                                                | 15.0                                                                                |                                                                                     |
| Yellow Time (s)            | 4.0                                                                               | 4.0                                                                               |                                                                                   | 4.0                                                                               | 4.0                                                                               |                                                                                   | 4.0                                                                               | 4.0                                                                                 |                                                                                     | 4.0                                                                                 | 4.0                                                                                 |                                                                                     |
| All-Red Time (s)           | 2.0                                                                               | 2.0                                                                               |                                                                                   | 2.0                                                                               | 2.0                                                                               |                                                                                   | 1.0                                                                               | 1.0                                                                                 |                                                                                     | 1.0                                                                                 | 1.0                                                                                 |                                                                                     |
| Lost Time Adjust (s)       |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                                 |                                                                                     |                                                                                     | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)        |                                                                                   | 6.0                                                                               |                                                                                   |                                                                                   | 6.0                                                                               |                                                                                   |                                                                                   | 5.0                                                                                 |                                                                                     |                                                                                     | 5.0                                                                                 |                                                                                     |
| Lead/Lag                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?         |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Vehicle Extension (s)      | 5.0                                                                               | 5.0                                                                               |                                                                                   | 5.0                                                                               | 5.0                                                                               |                                                                                   | 2.0                                                                               | 2.0                                                                                 |                                                                                     | 2.0                                                                                 | 2.0                                                                                 |                                                                                     |
| Recall Mode                | Max                                                                               | Max                                                                               |                                                                                   | Max                                                                               | Max                                                                               |                                                                                   | None                                                                              | None                                                                                |                                                                                     | None                                                                                | None                                                                                |                                                                                     |
| Act Effect Green (s)       |                                                                                   | 28.2                                                                              |                                                                                   |                                                                                   | 28.2                                                                              |                                                                                   |                                                                                   | 8.3                                                                                 |                                                                                     |                                                                                     | 8.3                                                                                 |                                                                                     |
| Actuated g/C Ratio         |                                                                                   | 0.64                                                                              |                                                                                   |                                                                                   | 0.64                                                                              |                                                                                   |                                                                                   | 0.19                                                                                |                                                                                     |                                                                                     | 0.19                                                                                |                                                                                     |
| v/c Ratio                  |                                                                                   | 0.28                                                                              |                                                                                   |                                                                                   | 0.29                                                                              |                                                                                   |                                                                                   | 0.09                                                                                |                                                                                     |                                                                                     | 0.51                                                                                |                                                                                     |
| Control Delay              |                                                                                   | 6.2                                                                               |                                                                                   |                                                                                   | 6.1                                                                               |                                                                                   |                                                                                   | 12.9                                                                                |                                                                                     |                                                                                     | 13.0                                                                                |                                                                                     |
| Queue Delay                |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                                 |                                                                                     |                                                                                     | 0.0                                                                                 |                                                                                     |
| Total Delay                |                                                                                   | 6.2                                                                               |                                                                                   |                                                                                   | 6.1                                                                               |                                                                                   |                                                                                   | 12.9                                                                                |                                                                                     |                                                                                     | 13.0                                                                                |                                                                                     |
| LOS                        |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | B                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |



# Lanes, Volumes, Timings

## 6: Cicero Center Road & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Approach Delay          |                                                                                   | 6.2                                                                               |                                                                                   |                                                                                   | 6.1                                                                               |                                                                                   |                                                                                   | 12.9                                                                                |                                                                                     |                                                                                     | 13.0                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | B                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| Queue Length 50th (ft)  |                                                                                   | 31                                                                                |                                                                                   |                                                                                   | 33                                                                                |                                                                                   |                                                                                   | 4                                                                                   |                                                                                     |                                                                                     | 19                                                                                  |                                                                                     |
| Queue Length 95th (ft)  |                                                                                   | 83                                                                                |                                                                                   |                                                                                   | 87                                                                                |                                                                                   |                                                                                   | 17                                                                                  |                                                                                     |                                                                                     | 41                                                                                  |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 503                                                                               |                                                                                   |                                                                                   | 528                                                                               |                                                                                   |                                                                                   | 420                                                                                 |                                                                                     |                                                                                     | 425                                                                                 |                                                                                     |
| Turn Bay Length (ft)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Base Capacity (vph)     |                                                                                   | 1109                                                                              |                                                                                   |                                                                                   | 1173                                                                              |                                                                                   |                                                                                   | 527                                                                                 |                                                                                     |                                                                                     | 610                                                                                 |                                                                                     |
| Starvation Cap Reductn  |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       |                                                                                   | 0.28                                                                              |                                                                                   |                                                                                   | 0.29                                                                              |                                                                                   |                                                                                   | 0.05                                                                                |                                                                                     |                                                                                     | 0.32                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Cycle Length: 50

Actuated Cycle Length: 44

Natural Cycle: 40

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.51

Intersection Signal Delay: 7.9

Intersection Capacity Utilization 49.5%

Analysis Period (min) 15

Intersection LOS: A

ICU Level of Service A

Splits and Phases: 6: Cicero Center Road & Route 31

|                                                                                        |  |                                                                                        |
|----------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------|
|  Ø2 |  |  Ø4 |
| 30 s                                                                                   |  | 20 s                                                                                   |
|  Ø6 |  |  Ø8 |
| 30 s                                                                                   |  | 20 s                                                                                   |



Lanes, Volumes, Timings  
7: Route 31 & Lakeshore Road (East)

07/05/2022

|                            |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | WBT                                                                               | WBR                                                                               | SBL                                                                               | SBR                                                                               |
| Lane Configurations        |                                                                                   |  |  |                                                                                   |  |                                                                                   |
| Traffic Volume (vph)       | 17                                                                                | 263                                                                               | 288                                                                               | 47                                                                                | 59                                                                                | 35                                                                                |
| Future Volume (vph)        | 17                                                                                | 263                                                                               | 288                                                                               | 47                                                                                | 59                                                                                | 35                                                                                |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Satd. Flow (prot)          | 0                                                                                 | 1876                                                                              | 1845                                                                              | 0                                                                                 | 1732                                                                              | 0                                                                                 |
| Flt Permitted              |                                                                                   | 0.997                                                                             |                                                                                   |                                                                                   | 0.969                                                                             |                                                                                   |
| Satd. Flow (perm)          | 0                                                                                 | 1876                                                                              | 1845                                                                              | 0                                                                                 | 1732                                                                              | 0                                                                                 |
| Link Speed (mph)           |                                                                                   | 55                                                                                | 55                                                                                |                                                                                   | 35                                                                                |                                                                                   |
| Link Distance (ft)         |                                                                                   | 516                                                                               | 592                                                                               |                                                                                   | 420                                                                               |                                                                                   |
| Travel Time (s)            |                                                                                   | 6.4                                                                               | 7.3                                                                               |                                                                                   | 8.2                                                                               |                                                                                   |
| Confl. Peds. (#/hr)        |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 2                                                                                 |
| Peak Hour Factor           | 0.88                                                                              | 0.88                                                                              | 0.90                                                                              | 0.90                                                                              | 0.79                                                                              | 0.79                                                                              |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)      | 0                                                                                 | 318                                                                               | 372                                                                               | 0                                                                                 | 119                                                                               | 0                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment             | Left                                                                              | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Right                                                                             |
| Median Width(ft)           |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 12                                                                                |                                                                                   |
| Link Offset(ft)            |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 |                                                                                   |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                | 16                                                                                |                                                                                   | 16                                                                                |                                                                                   |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (mph)        | 15                                                                                |                                                                                   |                                                                                   | 9                                                                                 | 15                                                                                | 9                                                                                 |
| Sign Control               |                                                                                   | Free                                                                              | Free                                                                              |                                                                                   | Stop                                                                              |                                                                                   |

Intersection Summary

Area Type: Other  
Control Type: Unsignalized  
Intersection Capacity Utilization 40.4%  
Analysis Period (min) 15

ICU Level of Service A



HCM 6th TWSC  
7: Route 31 & Lakeshore Road (East)

07/05/2022

Intersection

Int Delay, s/veh 2.4

| Movement                 | EBL  | EBT                                                                               | WBT                                                                               | WBR  | SBL                                                                               | SBR  |
|--------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|------|
| Lane Configurations      |      |  |  |      |  |      |
| Traffic Vol, veh/h       | 17   | 263                                                                               | 288                                                                               | 47   | 59                                                                                | 35   |
| Future Vol, veh/h        | 17   | 263                                                                               | 288                                                                               | 47   | 59                                                                                | 35   |
| Conflicting Peds, #/hr   | 0    | 0                                                                                 | 0                                                                                 | 0    | 0                                                                                 | 2    |
| Sign Control             | Free | Free                                                                              | Free                                                                              | Free | Stop                                                                              | Stop |
| RT Channelized           | -    | None                                                                              | -                                                                                 | None | -                                                                                 | None |
| Storage Length           | -    | -                                                                                 | -                                                                                 | -    | 0                                                                                 | -    |
| Veh in Median Storage, # | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Grade, %                 | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Peak Hour Factor         | 88   | 88                                                                                | 90                                                                                | 90   | 79                                                                                | 79   |
| Heavy Vehicles, %        | 1    | 1                                                                                 | 1                                                                                 | 1    | 1                                                                                 | 1    |
| Mvmt Flow                | 19   | 299                                                                               | 320                                                                               | 52   | 75                                                                                | 44   |

| Major/Minor          | Major1 | Major2 | Minor2        |
|----------------------|--------|--------|---------------|
| Conflicting Flow All | 372    | 0      | 0 683 348     |
| Stage 1              | -      | -      | - 346 -       |
| Stage 2              | -      | -      | - 337 -       |
| Critical Hdwy        | 4.11   | -      | - 6.41 6.21   |
| Critical Hdwy Stg 1  | -      | -      | - 5.41 -      |
| Critical Hdwy Stg 2  | -      | -      | - 5.41 -      |
| Follow-up Hdwy       | 2.209  | -      | - 3.509 3.309 |
| Pot Cap-1 Maneuver   | 1192   | -      | - 416 697     |
| Stage 1              | -      | -      | - 719 -       |
| Stage 2              | -      | -      | - 725 -       |
| Platoon blocked, %   | -      | -      | -             |
| Mov Cap-1 Maneuver   | 1192   | -      | - 408 696     |
| Mov Cap-2 Maneuver   | -      | -      | - 408 -       |
| Stage 1              | -      | -      | - 705 -       |
| Stage 2              | -      | -      | - 725 -       |

| Approach             | EB  | WB | SB   |
|----------------------|-----|----|------|
| HCM Control Delay, s | 0.5 | 0  | 14.9 |
| HCM LOS              |     |    | B    |

| Minor Lane/Major Mvmt | EBL   | EBT | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-----|-------|
| Capacity (veh/h)      | 1192  | -   | -   | -   | 482   |
| HCM Lane V/C Ratio    | 0.016 | -   | -   | -   | 0.247 |
| HCM Control Delay (s) | 8.1   | 0   | -   | -   | 14.9  |
| HCM Lane LOS          | A     | A   | -   | -   | B     |
| HCM 95th %tile Q(veh) | 0     | -   | -   | -   | 1     |



# Lanes, Volumes, Timings

## 8: Thompson Road & South Bay Road

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |  |  |                                                                                   |  |  |                                                                                   |                                                                                   |  |  |                                                                                     |  |  |
| Traffic Volume (vph)       | 260                                                                               | 316                                                                               | 6                                                                                 | 334                                                                               | 319                                                                               | 7                                                                                 | 7                                                                                 | 195                                                                                 | 217                                                                                 | 7                                                                                   | 206                                                                                 | 177                                                                                 |
| Future Volume (vph)        | 260                                                                               | 316                                                                               | 6                                                                                 | 334                                                                               | 319                                                                               | 7                                                                                 | 7                                                                                 | 195                                                                                 | 217                                                                                 | 7                                                                                   | 206                                                                                 | 177                                                                                 |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 300                                                                               |                                                                                   | 0                                                                                 | 250                                                                               |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                     | 210                                                                                 | 0                                                                                   |                                                                                     | 600                                                                                 |
| Storage Lanes              | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                     | 1                                                                                   | 0                                                                                   |                                                                                     | 1                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 1787                                                                              | 1876                                                                              | 0                                                                                 | 1787                                                                              | 1875                                                                              | 0                                                                                 | 0                                                                                 | 1841                                                                                | 1568                                                                                | 0                                                                                   | 1859                                                                                | 1583                                                                                |
| Flt Permitted              | 0.329                                                                             |                                                                                   |                                                                                   | 0.358                                                                             |                                                                                   |                                                                                   |                                                                                   | 0.986                                                                               |                                                                                     |                                                                                     | 0.987                                                                               |                                                                                     |
| Satd. Flow (perm)          | 619                                                                               | 1876                                                                              | 0                                                                                 | 673                                                                               | 1875                                                                              | 0                                                                                 | 0                                                                                 | 1819                                                                                | 1568                                                                                | 0                                                                                   | 1839                                                                                | 1583                                                                                |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   | 1                                                                                 |                                                                                   |                                                                                   | 1                                                                                 |                                                                                   |                                                                                   |                                                                                     | 241                                                                                 |                                                                                     |                                                                                     | 201                                                                                 |
| Link Speed (mph)           |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 45                                                                                  |                                                                                     |                                                                                     | 45                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 1324                                                                              |                                                                                   |                                                                                   | 1155                                                                              |                                                                                   |                                                                                   | 1095                                                                                |                                                                                     |                                                                                     | 1033                                                                                |                                                                                     |
| Travel Time (s)            |                                                                                   | 20.1                                                                              |                                                                                   |                                                                                   | 17.5                                                                              |                                                                                   |                                                                                   | 16.6                                                                                |                                                                                     |                                                                                     | 15.7                                                                                |                                                                                     |
| Confl. Peds. (#/hr)        | 1                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1                                                                                 |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Peak Hour Factor           | 0.89                                                                              | 0.89                                                                              | 0.89                                                                              | 0.86                                                                              | 0.86                                                                              | 0.86                                                                              | 0.80                                                                              | 0.80                                                                                | 0.80                                                                                | 0.88                                                                                | 0.88                                                                                | 0.88                                                                                |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 3%                                                                                | 3%                                                                                  | 3%                                                                                  | 2%                                                                                  | 2%                                                                                  | 2%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 292                                                                               | 362                                                                               | 0                                                                                 | 388                                                                               | 379                                                                               | 0                                                                                 | 0                                                                                 | 253                                                                                 | 271                                                                                 | 0                                                                                   | 242                                                                                 | 201                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                             | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                  | pm+ov                                                                               | Perm                                                                                | NA                                                                                  | pm+ov                                                                               |
| Protected Phases           | 7                                                                                 | 4                                                                                 |                                                                                   | 3                                                                                 | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                   | 3                                                                                   |                                                                                     | 6                                                                                   | 7                                                                                   |
| Permitted Phases           | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                 |                                                                                     | 2                                                                                   | 6                                                                                   |                                                                                     | 6                                                                                   |
| Detector Phase             | 7                                                                                 | 4                                                                                 |                                                                                   | 3                                                                                 | 8                                                                                 |                                                                                   | 2                                                                                 | 2                                                                                   | 3                                                                                   | 6                                                                                   | 6                                                                                   | 7                                                                                   |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 5.0                                                                               | 10.0                                                                              |                                                                                   | 5.0                                                                               | 5.0                                                                               |                                                                                   | 10.0                                                                              | 10.0                                                                                | 5.0                                                                                 | 10.0                                                                                | 10.0                                                                                | 5.0                                                                                 |
| Minimum Split (s)          | 12.0                                                                              | 17.0                                                                              |                                                                                   | 12.0                                                                              | 12.0                                                                              |                                                                                   | 16.5                                                                              | 16.5                                                                                | 12.0                                                                                | 16.5                                                                                | 16.5                                                                                | 12.0                                                                                |
| Total Split (s)            | 15.0                                                                              | 30.0                                                                              |                                                                                   | 15.0                                                                              | 30.0                                                                              |                                                                                   | 30.0                                                                              | 30.0                                                                                | 15.0                                                                                | 30.0                                                                                | 30.0                                                                                | 15.0                                                                                |
| Total Split (%)            | 20.0%                                                                             | 40.0%                                                                             |                                                                                   | 20.0%                                                                             | 40.0%                                                                             |                                                                                   | 40.0%                                                                             | 40.0%                                                                               | 20.0%                                                                               | 40.0%                                                                               | 40.0%                                                                               | 20.0%                                                                               |
| Maximum Green (s)          | 8.0                                                                               | 23.0                                                                              |                                                                                   | 8.0                                                                               | 23.0                                                                              |                                                                                   | 23.5                                                                              | 23.5                                                                                | 8.0                                                                                 | 23.5                                                                                | 23.5                                                                                | 8.0                                                                                 |
| Yellow Time (s)            | 4.0                                                                               | 4.0                                                                               |                                                                                   | 4.0                                                                               | 4.0                                                                               |                                                                                   | 3.5                                                                               | 3.5                                                                                 | 4.0                                                                                 | 3.5                                                                                 | 3.5                                                                                 | 4.0                                                                                 |
| All-Red Time (s)           | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |
| Lost Time Adjust (s)       | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                                 | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |
| Total Lost Time (s)        | 7.0                                                                               | 7.0                                                                               |                                                                                   | 7.0                                                                               | 7.0                                                                               |                                                                                   |                                                                                   | 6.5                                                                                 | 7.0                                                                                 |                                                                                     | 6.5                                                                                 | 7.0                                                                                 |
| Lead/Lag                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                              | Lag                                                                               |                                                                                   |                                                                                   |                                                                                     | Lead                                                                                |                                                                                     |                                                                                     | Lead                                                                                |
| Lead-Lag Optimize?         | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                               | Yes                                                                               |                                                                                   |                                                                                   |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Vehicle Extension (s)      | 3.0                                                                               | 2.0                                                                               |                                                                                   | 3.0                                                                               | 2.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |
| Recall Mode                | None                                                                              | Min                                                                               |                                                                                   | None                                                                              | Min                                                                               |                                                                                   | Max                                                                               | Max                                                                                 | None                                                                                | Max                                                                                 | Max                                                                                 | None                                                                                |
| Act Effect Green (s)       | 25.8                                                                              | 17.8                                                                              |                                                                                   | 25.8                                                                              | 17.8                                                                              |                                                                                   |                                                                                   | 23.6                                                                                | 38.2                                                                                |                                                                                     | 23.6                                                                                | 38.2                                                                                |
| Actuated g/C Ratio         | 0.37                                                                              | 0.25                                                                              |                                                                                   | 0.37                                                                              | 0.25                                                                              |                                                                                   |                                                                                   | 0.34                                                                                | 0.55                                                                                |                                                                                     | 0.34                                                                                | 0.55                                                                                |
| v/c Ratio                  | 0.81                                                                              | 0.76                                                                              |                                                                                   | 1.03                                                                              | 0.80                                                                              |                                                                                   |                                                                                   | 0.41                                                                                | 0.28                                                                                |                                                                                     | 0.39                                                                                | 0.21                                                                                |



# Lanes, Volumes, Timings

## 8: Thompson Road & South Bay Road

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Control Delay           | 32.7                                                                              | 34.9                                                                              |                                                                                   | 75.0                                                                              | 37.3                                                                              |                                                                                   |                                                                                   | 21.5                                                                                | 2.9                                                                                 |                                                                                     | 21.1                                                                                | 2.2                                                                                 |
| Queue Delay             | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                                 | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |
| Total Delay             | 32.7                                                                              | 34.9                                                                              |                                                                                   | 75.0                                                                              | 37.3                                                                              |                                                                                   |                                                                                   | 21.5                                                                                | 2.9                                                                                 |                                                                                     | 21.1                                                                                | 2.2                                                                                 |
| LOS                     | C                                                                                 | C                                                                                 |                                                                                   | E                                                                                 | D                                                                                 |                                                                                   |                                                                                   | C                                                                                   | A                                                                                   |                                                                                     | C                                                                                   | A                                                                                   |
| Approach Delay          |                                                                                   | 33.9                                                                              |                                                                                   |                                                                                   | 56.4                                                                              |                                                                                   |                                                                                   | 11.9                                                                                |                                                                                     |                                                                                     | 12.6                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | E                                                                                 |                                                                                   |                                                                                   | B                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 75                                                                                | 143                                                                               |                                                                                   | ~112                                                                              | 151                                                                               |                                                                                   |                                                                                   | 83                                                                                  | 6                                                                                   |                                                                                     | 79                                                                                  | 0                                                                                   |
| Queue Length 95th (ft)  | #141                                                                              | 227                                                                               |                                                                                   | #241                                                                              | 227                                                                               |                                                                                   |                                                                                   | 136                                                                                 | 30                                                                                  |                                                                                     | 146                                                                                 | 28                                                                                  |
| Internal Link Dist (ft) |                                                                                   | 1244                                                                              |                                                                                   |                                                                                   | 1075                                                                              |                                                                                   |                                                                                   | 1015                                                                                |                                                                                     |                                                                                     | 953                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 300                                                                               |                                                                                   |                                                                                   | 250                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 210                                                                                 |                                                                                     |                                                                                     | 600                                                                                 |
| Base Capacity (vph)     | 362                                                                               | 619                                                                               |                                                                                   | 375                                                                               | 619                                                                               |                                                                                   |                                                                                   | 613                                                                                 | 964                                                                                 |                                                                                     | 620                                                                                 | 954                                                                                 |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |
| Reduced v/c Ratio       | 0.81                                                                              | 0.58                                                                              |                                                                                   | 1.03                                                                              | 0.61                                                                              |                                                                                   |                                                                                   | 0.41                                                                                | 0.28                                                                                |                                                                                     | 0.39                                                                                | 0.21                                                                                |

### Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 70

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.03

Intersection Signal Delay: 32.3

Intersection LOS: C

Intersection Capacity Utilization 69.1%

ICU Level of Service C

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

### Splits and Phases: 8: Thompson Road & South Bay Road

|                                                                                        |                                                                                        |                                                                                        |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
|  Ø2 |  Ø3 |  Ø4 |
| 30 s                                                                                   | 15 s                                                                                   | 30 s                                                                                   |
|  Ø6 |  Ø7 |  Ø8 |
| 30 s                                                                                   | 15 s                                                                                   | 30 s                                                                                   |



# Lanes, Volumes, Timings

## 9: Lakeshore Road & Mudd Mill Road

07/05/2022

|                            |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | WBT                                                                               | WBR                                                                               | SBL                                                                               | SBR                                                                               |
| Lane Configurations        |                                                                                   |  |  |                                                                                   |  |                                                                                   |
| Traffic Volume (vph)       | 16                                                                                | 168                                                                               | 275                                                                               | 89                                                                                | 101                                                                               | 34                                                                                |
| Future Volume (vph)        | 16                                                                                | 168                                                                               | 275                                                                               | 89                                                                                | 101                                                                               | 34                                                                                |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Satd. Flow (prot)          | 0                                                                                 | 1820                                                                              | 1733                                                                              | 0                                                                                 | 1685                                                                              | 0                                                                                 |
| Flt Permitted              |                                                                                   | 0.996                                                                             |                                                                                   |                                                                                   | 0.964                                                                             |                                                                                   |
| Satd. Flow (perm)          | 0                                                                                 | 1820                                                                              | 1733                                                                              | 0                                                                                 | 1685                                                                              | 0                                                                                 |
| Link Speed (mph)           |                                                                                   | 35                                                                                | 35                                                                                |                                                                                   | 35                                                                                |                                                                                   |
| Link Distance (ft)         |                                                                                   | 753                                                                               | 701                                                                               |                                                                                   | 545                                                                               |                                                                                   |
| Travel Time (s)            |                                                                                   | 14.7                                                                              | 13.7                                                                              |                                                                                   | 10.6                                                                              |                                                                                   |
| Peak Hour Factor           | 0.87                                                                              | 0.87                                                                              | 0.85                                                                              | 0.85                                                                              | 0.91                                                                              | 0.91                                                                              |
| Heavy Vehicles (%)         | 4%                                                                                | 4%                                                                                | 6%                                                                                | 6%                                                                                | 5%                                                                                | 5%                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)      | 0                                                                                 | 211                                                                               | 429                                                                               | 0                                                                                 | 148                                                                               | 0                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment             | Left                                                                              | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Right                                                                             |
| Median Width(ft)           |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 12                                                                                |                                                                                   |
| Link Offset(ft)            |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 |                                                                                   |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                | 16                                                                                |                                                                                   | 16                                                                                |                                                                                   |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (mph)        | 15                                                                                |                                                                                   |                                                                                   | 9                                                                                 | 15                                                                                | 9                                                                                 |
| Sign Control               |                                                                                   | Free                                                                              | Free                                                                              |                                                                                   | Stop                                                                              |                                                                                   |

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 36.5%

ICU Level of Service A

Analysis Period (min) 15



HCM 6th TWSC  
9: Lakeshore Road & Mudd Mill Road

07/05/2022

Intersection

Int Delay, s/veh 3.1

| Movement                 | EBL  | EBT                                                                               | WBT                                                                               | WBR  | SBL                                                                               | SBR  |
|--------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|------|
| Lane Configurations      |      |  |  |      |  |      |
| Traffic Vol, veh/h       | 16   | 168                                                                               | 275                                                                               | 89   | 101                                                                               | 34   |
| Future Vol, veh/h        | 16   | 168                                                                               | 275                                                                               | 89   | 101                                                                               | 34   |
| Conflicting Peds, #/hr   | 0    | 0                                                                                 | 0                                                                                 | 0    | 0                                                                                 | 0    |
| Sign Control             | Free | Free                                                                              | Free                                                                              | Free | Stop                                                                              | Stop |
| RT Channelized           | -    | None                                                                              | -                                                                                 | None | -                                                                                 | None |
| Storage Length           | -    | -                                                                                 | -                                                                                 | -    | 0                                                                                 | -    |
| Veh in Median Storage, # | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Grade, %                 | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Peak Hour Factor         | 87   | 87                                                                                | 85                                                                                | 85   | 91                                                                                | 91   |
| Heavy Vehicles, %        | 4    | 4                                                                                 | 6                                                                                 | 6    | 5                                                                                 | 5    |
| Mvmt Flow                | 18   | 193                                                                               | 324                                                                               | 105  | 111                                                                               | 37   |

| Major/Minor          | Major1 | Major2 | Minor2 |
|----------------------|--------|--------|--------|
| Conflicting Flow All | 429    | 0      | 0      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |
| Critical Hdwy        | 4.14   | -      | -      |
| Critical Hdwy Stg 1  | -      | -      | -      |
| Critical Hdwy Stg 2  | -      | -      | -      |
| Follow-up Hdwy       | 2.236  | -      | -      |
| Pot Cap-1 Maneuver   | 1120   | -      | -      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |
| Platoon blocked, %   | -      | -      | -      |
| Mov Cap-1 Maneuver   | 1120   | -      | -      |
| Mov Cap-2 Maneuver   | -      | -      | -      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |

| Approach             | EB  | WB | SB   |
|----------------------|-----|----|------|
| HCM Control Delay, s | 0.7 | 0  | 15.6 |
| HCM LOS              |     |    | C    |

| Minor Lane/Major Mvmt | EBL   | EBT | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-----|-------|
| Capacity (veh/h)      | 1120  | -   | -   | -   | 487   |
| HCM Lane V/C Ratio    | 0.016 | -   | -   | -   | 0.305 |
| HCM Control Delay (s) | 8.3   | 0   | -   | -   | 15.6  |
| HCM Lane LOS          | A     | A   | -   | -   | C     |
| HCM 95th %tile Q(veh) | 0.1   | -   | -   | -   | 1.3   |



# Lanes, Volumes, Timings

## 10: South Bay Road & Lakeshore Road

07/05/2022

|                            |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                 | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations        |  |                                                                                   |                                                                                   |  |  |                                                                                   |
| Traffic Volume (vph)       | 198                                                                               | 3                                                                                 | 271                                                                               | 191                                                                               | 3                                                                                 | 220                                                                               |
| Future Volume (vph)        | 198                                                                               | 3                                                                                 | 271                                                                               | 191                                                                               | 3                                                                                 | 220                                                                               |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Satd. Flow (prot)          | 1806                                                                              | 0                                                                                 | 0                                                                                 | 1774                                                                              | 1567                                                                              | 0                                                                                 |
| Flt Permitted              |                                                                                   |                                                                                   |                                                                                   | 0.971                                                                             | 0.999                                                                             |                                                                                   |
| Satd. Flow (perm)          | 1806                                                                              | 0                                                                                 | 0                                                                                 | 1774                                                                              | 1567                                                                              | 0                                                                                 |
| Link Speed (mph)           | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                | 45                                                                                |                                                                                   |
| Link Distance (ft)         | 538                                                                               |                                                                                   |                                                                                   | 300                                                                               | 501                                                                               |                                                                                   |
| Travel Time (s)            | 10.5                                                                              |                                                                                   |                                                                                   | 5.8                                                                               | 7.6                                                                               |                                                                                   |
| Confl. Peds. (#/hr)        |                                                                                   | 1                                                                                 | 1                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Peak Hour Factor           | 0.78                                                                              | 0.78                                                                              | 0.84                                                                              | 0.84                                                                              | 0.92                                                                              | 0.92                                                                              |
| Heavy Vehicles (%)         | 5%                                                                                | 5%                                                                                | 4%                                                                                | 4%                                                                                | 5%                                                                                | 5%                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)      | 258                                                                               | 0                                                                                 | 0                                                                                 | 550                                                                               | 242                                                                               | 0                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment             | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Left                                                                              | Right                                                                             |
| Median Width(ft)           | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 | 12                                                                                |                                                                                   |
| Link Offset(ft)            | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |
| Crosswalk Width(ft)        | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                | 16                                                                                |                                                                                   |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (mph)        |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 15                                                                                | 9                                                                                 |
| Sign Control               | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              | Stop                                                                              |                                                                                   |

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 59.5%

ICU Level of Service B

Analysis Period (min) 15



HCM 6th TWSC  
10: South Bay Road & Lakeshore Road

07/05/2022

Intersection

| Int Delay, s/veh         | 5.5  |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      | 1    |      |      | 1    | 1    |      |
| Traffic Vol, veh/h       | 198  | 3    | 271  | 191  | 3    | 220  |
| Future Vol, veh/h        | 198  | 3    | 271  | 191  | 3    | 220  |
| Conflicting Peds, #/hr   | 0    | 1    | 1    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | -    | -    | 0    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 78   | 78   | 84   | 84   | 92   | 92   |
| Heavy Vehicles, %        | 5    | 5    | 4    | 4    | 5    | 5    |
| Mvmt Flow                | 254  | 4    | 323  | 227  | 3    | 239  |

| Major/Minor          | Major1 | Major2 | Minor1 |
|----------------------|--------|--------|--------|
| Conflicting Flow All | 0      | 0      | 259    |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |
| Critical Hdwy        | -      | 4.14   | -      |
| Critical Hdwy Stg 1  | -      | -      | -      |
| Critical Hdwy Stg 2  | -      | -      | -      |
| Follow-up Hdwy       | -      | 2.236  | -      |
| Pot Cap-1 Maneuver   | -      | 1294   | -      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |
| Platoon blocked, %   | -      | -      | -      |
| Mov Cap-1 Maneuver   | -      | 1293   | -      |
| Mov Cap-2 Maneuver   | -      | -      | -      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |

| Approach             | EB | WB  | NB   |
|----------------------|----|-----|------|
| HCM Control Delay, s | 0  | 5.1 | 12.3 |
| HCM LOS              |    |     | B    |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL  | WBT |
|-----------------------|-------|-----|-----|------|-----|
| Capacity (veh/h)      | 735   | -   | -   | 1293 | -   |
| HCM Lane V/C Ratio    | 0.33  | -   | -   | 0.25 | -   |
| HCM Control Delay (s) | 12.3  | -   | -   | 8.7  | 0   |
| HCM Lane LOS          | B     | -   | -   | A    | A   |
| HCM 95th %tile Q(veh) | 1.4   | -   | -   | 1    | -   |



# Lanes, Volumes, Timings

## 11: Cicero Center Road/Van Antwerp Drive & Lakeshore Road

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (vph)       | 2                                                                                 | 197                                                                               | 39                                                                                | 9                                                                                 | 172                                                                               | 0                                                                                 | 23                                                                                | 0                                                                                   | 14                                                                                  | 1                                                                                   | 0                                                                                   | 3                                                                                   |
| Future Volume (vph)        | 2                                                                                 | 197                                                                               | 39                                                                                | 9                                                                                 | 172                                                                               | 0                                                                                 | 23                                                                                | 0                                                                                   | 14                                                                                  | 1                                                                                   | 0                                                                                   | 3                                                                                   |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Satd. Flow (prot)          | 0                                                                                 | 1822                                                                              | 0                                                                                 | 0                                                                                 | 1859                                                                              | 0                                                                                 | 0                                                                                 | 1717                                                                                | 0                                                                                   | 0                                                                                   | 1660                                                                                | 0                                                                                   |
| Flt Permitted              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.998                                                                             |                                                                                   |                                                                                   | 0.970                                                                               |                                                                                     |                                                                                     | 0.986                                                                               |                                                                                     |
| Satd. Flow (perm)          | 0                                                                                 | 1822                                                                              | 0                                                                                 | 0                                                                                 | 1859                                                                              | 0                                                                                 | 0                                                                                 | 1717                                                                                | 0                                                                                   | 0                                                                                   | 1660                                                                                | 0                                                                                   |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 55                                                                                  |                                                                                     |                                                                                     | 30                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 557                                                                               |                                                                                   |                                                                                   | 543                                                                               |                                                                                   |                                                                                   | 388                                                                                 |                                                                                     |                                                                                     | 295                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 10.9                                                                              |                                                                                   |                                                                                   | 10.6                                                                              |                                                                                   |                                                                                   | 4.8                                                                                 |                                                                                     |                                                                                     | 6.7                                                                                 |                                                                                     |
| Confl. Peds. (#/hr)        | 1                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1                                                                                 | 2                                                                                 |                                                                                     | 1                                                                                   | 1                                                                                   |                                                                                     | 2                                                                                   |
| Peak Hour Factor           | 0.83                                                                              | 0.83                                                                              | 0.83                                                                              | 0.79                                                                              | 0.79                                                                              | 0.79                                                                              | 0.55                                                                              | 0.55                                                                                | 0.55                                                                                | 0.63                                                                                | 0.63                                                                                | 0.63                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 0                                                                                 | 286                                                                               | 0                                                                                 | 0                                                                                 | 229                                                                               | 0                                                                                 | 0                                                                                 | 67                                                                                  | 0                                                                                   | 0                                                                                   | 7                                                                                   | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Sign Control               |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Stop                                                                                |                                                                                     |                                                                                     | Stop                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 26.6%

ICU Level of Service A

Analysis Period (min) 15



|                          |        |       |        |       |       |        |       |       |        |       |       |       |
|--------------------------|--------|-------|--------|-------|-------|--------|-------|-------|--------|-------|-------|-------|
| Intersection             |        |       |        |       |       |        |       |       |        |       |       |       |
| Int Delay, s/veh         | 1.7    |       |        |       |       |        |       |       |        |       |       |       |
| Movement                 | EBL    | EBT   | EBR    | WBL   | WBT   | WBR    | NBL   | NBT   | NBR    | SBL   | SBT   | SBR   |
| Lane Configurations      |        | ↔     |        |       | ↔     |        |       | ↔     |        |       | ↔     |       |
| Traffic Vol, veh/h       | 2      | 197   | 39     | 9     | 172   | 0      | 23    | 0     | 14     | 1     | 0     | 3     |
| Future Vol, veh/h        | 2      | 197   | 39     | 9     | 172   | 0      | 23    | 0     | 14     | 1     | 0     | 3     |
| Conflicting Peds, #/hr   | 1      | 0     | 0      | 0     | 0     | 1      | 2     | 0     | 1      | 1     | 0     | 2     |
| Sign Control             | Free   | Free  | Free   | Free  | Free  | Free   | Stop  | Stop  | Stop   | Stop  | Stop  | Stop  |
| RT Channelized           | -      | -     | None   | -     | -     | None   | -     | -     | None   | -     | -     | None  |
| Storage Length           | -      | -     | -      | -     | -     | -      | -     | -     | -      | -     | -     | -     |
| Veh in Median Storage, # | -      | 0     | -      | -     | 0     | -      | -     | 0     | -      | -     | 0     | -     |
| Grade, %                 | -      | 0     | -      | -     | 0     | -      | -     | 0     | -      | -     | 0     | -     |
| Peak Hour Factor         | 83     | 83    | 83     | 79    | 79    | 79     | 55    | 55    | 55     | 63    | 63    | 63    |
| Heavy Vehicles, %        | 2      | 2     | 2      | 2     | 2     | 2      | 2     | 2     | 2      | 2     | 2     | 2     |
| Mvmt Flow                | 2      | 237   | 47     | 11    | 218   | 0      | 42    | 0     | 25     | 2     | 0     | 5     |
|                          |        |       |        |       |       |        |       |       |        |       |       |       |
| Major/Minor              | Major1 |       | Major2 |       |       | Minor1 |       |       | Minor2 |       |       |       |
| Conflicting Flow All     | 219    | 0     | 0      | 284   | 0     | 0      | 510   | 506   | 262    | 519   | 529   | 221   |
| Stage 1                  | -      | -     | -      | -     | -     | -      | 265   | 265   | -      | 241   | 241   | -     |
| Stage 2                  | -      | -     | -      | -     | -     | -      | 245   | 241   | -      | 278   | 288   | -     |
| Critical Hdwy            | 4.12   | -     | -      | 4.12  | -     | -      | 7.12  | 6.52  | 6.22   | 7.12  | 6.52  | 6.22  |
| Critical Hdwy Stg 1      | -      | -     | -      | -     | -     | -      | 6.12  | 5.52  | -      | 6.12  | 5.52  | -     |
| Critical Hdwy Stg 2      | -      | -     | -      | -     | -     | -      | 6.12  | 5.52  | -      | 6.12  | 5.52  | -     |
| Follow-up Hdwy           | 2.218  | -     | -      | 2.218 | -     | -      | 3.518 | 4.018 | 3.318  | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver       | 1350   | -     | -      | 1278  | -     | -      | 474   | 469   | 777    | 467   | 455   | 819   |
| Stage 1                  | -      | -     | -      | -     | -     | -      | 740   | 689   | -      | 762   | 706   | -     |
| Stage 2                  | -      | -     | -      | -     | -     | -      | 759   | 706   | -      | 728   | 674   | -     |
| Platoon blocked, %       |        | -     | -      |       | -     | -      |       |       |        |       |       |       |
| Mov Cap-1 Maneuver       | 1349   | -     | -      | 1278  | -     | -      | 466   | 463   | 776    | 447   | 449   | 817   |
| Mov Cap-2 Maneuver       | -      | -     | -      | -     | -     | -      | 466   | 463   | -      | 447   | 449   | -     |
| Stage 1                  | -      | -     | -      | -     | -     | -      | 739   | 688   | -      | 760   | 698   | -     |
| Stage 2                  | -      | -     | -      | -     | -     | -      | 746   | 698   | -      | 702   | 673   | -     |
|                          |        |       |        |       |       |        |       |       |        |       |       |       |
| Approach                 | EB     |       | WB     |       |       | NB     |       |       | SB     |       |       |       |
| HCM Control Delay, s     | 0.1    |       | 0.4    |       |       | 12.5   |       |       | 10.4   |       |       |       |
| HCM LOS                  |        |       |        |       |       | B      |       |       | B      |       |       |       |
|                          |        |       |        |       |       |        |       |       |        |       |       |       |
| Minor Lane/Major Mvmt    | NBLn1  | EBL   | EBT    | EBR   | WBL   | WBT    | WBR   | SBLn1 |        |       |       |       |
| Capacity (veh/h)         | 549    | 1349  | -      | -     | 1278  | -      | -     | 677   |        |       |       |       |
| HCM Lane V/C Ratio       | 0.123  | 0.002 | -      | -     | 0.009 | -      | -     | 0.009 |        |       |       |       |
| HCM Control Delay (s)    | 12.5   | 7.7   | 0      | -     | 7.8   | 0      | -     | 10.4  |        |       |       |       |
| HCM Lane LOS             | B      | A     | A      | -     | A     | A      | -     | B     |        |       |       |       |
| HCM 95th %tile Q(veh)    | 0.4    | 0     | -      | -     | 0     | -      | -     | 0     |        |       |       |       |



# Lanes, Volumes, Timings

## 12: Lakeshore Road & West Site Access

07/05/2022

|                            |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | WBT                                                                               | WBR                                                                               | SBL                                                                               | SBR                                                                               |
| Lane Configurations        |                                                                                   |  |  |                                                                                   |  |                                                                                   |
| Traffic Volume (vph)       | 12                                                                                | 406                                                                               | 450                                                                               | 4                                                                                 | 4                                                                                 | 12                                                                                |
| Future Volume (vph)        | 12                                                                                | 406                                                                               | 450                                                                               | 4                                                                                 | 4                                                                                 | 12                                                                                |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Satd. Flow (prot)          | 0                                                                                 | 1810                                                                              | 1826                                                                              | 0                                                                                 | 1667                                                                              | 0                                                                                 |
| Flt Permitted              |                                                                                   | 0.999                                                                             |                                                                                   |                                                                                   | 0.988                                                                             |                                                                                   |
| Satd. Flow (perm)          | 0                                                                                 | 1810                                                                              | 1826                                                                              | 0                                                                                 | 1667                                                                              | 0                                                                                 |
| Link Speed (mph)           |                                                                                   | 35                                                                                | 35                                                                                |                                                                                   | 30                                                                                |                                                                                   |
| Link Distance (ft)         |                                                                                   | 300                                                                               | 359                                                                               |                                                                                   | 354                                                                               |                                                                                   |
| Travel Time (s)            |                                                                                   | 5.8                                                                               | 7.0                                                                               |                                                                                   | 8.0                                                                               |                                                                                   |
| Peak Hour Factor           | 0.78                                                                              | 0.78                                                                              | 0.84                                                                              | 0.84                                                                              | 0.90                                                                              | 0.90                                                                              |
| Heavy Vehicles (%)         | 1%                                                                                | 5%                                                                                | 4%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)      | 0                                                                                 | 536                                                                               | 541                                                                               | 0                                                                                 | 17                                                                                | 0                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment             | Left                                                                              | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Right                                                                             |
| Median Width(ft)           |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 12                                                                                |                                                                                   |
| Link Offset(ft)            |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 |                                                                                   |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                | 16                                                                                |                                                                                   | 16                                                                                |                                                                                   |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (mph)        | 15                                                                                |                                                                                   |                                                                                   | 9                                                                                 | 15                                                                                | 9                                                                                 |
| Sign Control               |                                                                                   | Free                                                                              | Free                                                                              |                                                                                   | Stop                                                                              |                                                                                   |

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 41.0%

ICU Level of Service A

Analysis Period (min) 15



HCM 6th TWSC  
12: Lakeshore Road & West Site Access

07/05/2022

Intersection

| Int Delay, s/veh         | 0.3  |                                                                                   |                                                                                   |      |                                                                                   |      |
|--------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|------|
| Movement                 | EBL  | EBT                                                                               | WBT                                                                               | WBR  | SBL                                                                               | SBR  |
| Lane Configurations      |      |  |  |      |  |      |
| Traffic Vol, veh/h       | 12   | 406                                                                               | 450                                                                               | 4    | 4                                                                                 | 12   |
| Future Vol, veh/h        | 12   | 406                                                                               | 450                                                                               | 4    | 4                                                                                 | 12   |
| Conflicting Peds, #/hr   | 0    | 0                                                                                 | 0                                                                                 | 0    | 0                                                                                 | 0    |
| Sign Control             | Free | Free                                                                              | Free                                                                              | Free | Stop                                                                              | Stop |
| RT Channelized           | -    | None                                                                              | -                                                                                 | None | -                                                                                 | None |
| Storage Length           | -    | -                                                                                 | -                                                                                 | -    | 0                                                                                 | -    |
| Veh in Median Storage, # | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Grade, %                 | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Peak Hour Factor         | 78   | 78                                                                                | 84                                                                                | 84   | 90                                                                                | 90   |
| Heavy Vehicles, %        | 1    | 5                                                                                 | 4                                                                                 | 1    | 1                                                                                 | 1    |
| Mvmt Flow                | 15   | 521                                                                               | 536                                                                               | 5    | 4                                                                                 | 13   |

| Major/Minor          | Major1 | Major2 | Minor2        |
|----------------------|--------|--------|---------------|
| Conflicting Flow All | 541    | 0      | 0 1090 539    |
| Stage 1              | -      | -      | - 539 -       |
| Stage 2              | -      | -      | - 551 -       |
| Critical Hdwy        | 4.11   | -      | - 6.41 6.21   |
| Critical Hdwy Stg 1  | -      | -      | - 5.41 -      |
| Critical Hdwy Stg 2  | -      | -      | - 5.41 -      |
| Follow-up Hdwy       | 2.209  | -      | - 3.509 3.309 |
| Pot Cap-1 Maneuver   | 1033   | -      | - 239 544     |
| Stage 1              | -      | -      | - 587 -       |
| Stage 2              | -      | -      | - 579 -       |
| Platoon blocked, %   | -      | -      | -             |
| Mov Cap-1 Maneuver   | 1033   | -      | - 234 544     |
| Mov Cap-2 Maneuver   | -      | -      | - 234 -       |
| Stage 1              | -      | -      | - 575 -       |
| Stage 2              | -      | -      | - 579 -       |

| Approach             | EB  | WB | SB   |
|----------------------|-----|----|------|
| HCM Control Delay, s | 0.2 | 0  | 14.2 |
| HCM LOS              |     |    | B    |

| Minor Lane/Major Mvmt | EBL   | EBT | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-----|-------|
| Capacity (veh/h)      | 1033  | -   | -   | -   | 409   |
| HCM Lane V/C Ratio    | 0.015 | -   | -   | -   | 0.043 |
| HCM Control Delay (s) | 8.5   | 0   | -   | -   | 14.2  |
| HCM Lane LOS          | A     | A   | -   | -   | B     |
| HCM 95th %tile Q(veh) | 0     | -   | -   | -   | 0.1   |



Lanes, Volumes, Timings  
13: Middle Site Access & Lakeshore Road

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (vph)       | 47                                                                                | 355                                                                               | 8                                                                                 | 1                                                                                 | 384                                                                               | 7                                                                                 | 23                                                                                | 0                                                                                   | 3                                                                                   | 7                                                                                   | 0                                                                                   | 47                                                                                  |
| Future Volume (vph)        | 47                                                                                | 355                                                                               | 8                                                                                 | 1                                                                                 | 384                                                                               | 7                                                                                 | 23                                                                                | 0                                                                                   | 3                                                                                   | 7                                                                                   | 0                                                                                   | 47                                                                                  |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Satd. Flow (prot)          | 0                                                                                 | 1802                                                                              | 0                                                                                 | 0                                                                                 | 1824                                                                              | 0                                                                                 | 0                                                                                 | 1775                                                                                | 0                                                                                   | 0                                                                                   | 1649                                                                                | 0                                                                                   |
| Flt Permitted              |                                                                                   | 0.994                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.957                                                                               |                                                                                     |                                                                                     | 0.993                                                                               |                                                                                     |
| Satd. Flow (perm)          | 0                                                                                 | 1802                                                                              | 0                                                                                 | 0                                                                                 | 1824                                                                              | 0                                                                                 | 0                                                                                 | 1775                                                                                | 0                                                                                   | 0                                                                                   | 1649                                                                                | 0                                                                                   |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 30                                                                                  |                                                                                     |                                                                                     | 30                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 359                                                                               |                                                                                   |                                                                                   | 475                                                                               |                                                                                   |                                                                                   | 333                                                                                 |                                                                                     |                                                                                     | 341                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 7.0                                                                               |                                                                                   |                                                                                   | 9.3                                                                               |                                                                                   |                                                                                   | 7.6                                                                                 |                                                                                     |                                                                                     | 7.8                                                                                 |                                                                                     |
| Peak Hour Factor           | 0.78                                                                              | 0.78                                                                              | 0.78                                                                              | 0.84                                                                              | 0.84                                                                              | 0.84                                                                              | 0.90                                                                              | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                |
| Heavy Vehicles (%)         | 1%                                                                                | 5%                                                                                | 1%                                                                                | 1%                                                                                | 4%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 0                                                                                 | 525                                                                               | 0                                                                                 | 0                                                                                 | 466                                                                               | 0                                                                                 | 0                                                                                 | 29                                                                                  | 0                                                                                   | 0                                                                                   | 60                                                                                  | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Sign Control               |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Stop                                                                                |                                                                                     |                                                                                     | Stop                                                                                |                                                                                     |

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 59.1%

ICU Level of Service B

Analysis Period (min) 15



HCM 6th TWSC  
13: Middle Site Access & Lakeshore Road

07/05/2022

Intersection

|                          |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 2    |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      | ↔    |      |      | ↔    |      |      | ↔    |      |      | ↔    |      |
| Traffic Vol, veh/h       | 47   | 355  | 8    | 1    | 384  | 7    | 23   | 0    | 3    | 7    | 0    | 47   |
| Future Vol, veh/h        | 47   | 355  | 8    | 1    | 384  | 7    | 23   | 0    | 3    | 7    | 0    | 47   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -    | None |
| Storage Length           | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 78   | 78   | 78   | 84   | 84   | 84   | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 1    | 5    | 1    | 1    | 4    | 1    | 1    | 1    | 1    | 1    | 1    | 1    |
| Mvmt Flow                | 60   | 455  | 10   | 1    | 457  | 8    | 26   | 0    | 3    | 8    | 0    | 52   |

|                      |        |   |   |        |   |   |        |       |       |        |       |       |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |       |       | Minor2 |       |       |
| Conflicting Flow All | 465    | 0 | 0 | 465    | 0 | 0 | 1069   | 1047  | 460   | 1045   | 1048  | 461   |
| Stage 1              | -      | - | - | -      | - | - | 580    | 580   | -     | 463    | 463   | -     |
| Stage 2              | -      | - | - | -      | - | - | 489    | 467   | -     | 582    | 585   | -     |
| Critical Hdwy        | 4.11   | - | - | 4.11   | - | - | 7.11   | 6.51  | 6.21  | 7.11   | 6.51  | 6.21  |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | 6.11   | 5.51  | -     | 6.11   | 5.51  | -     |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | 6.11   | 5.51  | -     | 6.11   | 5.51  | -     |
| Follow-up Hdwy       | 2.209  | - | - | 2.209  | - | - | 3.509  | 4.009 | 3.309 | 3.509  | 4.009 | 3.309 |
| Pot Cap-1 Maneuver   | 1102   | - | - | 1102   | - | - | 200    | 229   | 603   | 208    | 229   | 603   |
| Stage 1              | -      | - | - | -      | - | - | 502    | 502   | -     | 581    | 566   | -     |
| Stage 2              | -      | - | - | -      | - | - | 562    | 563   | -     | 501    | 499   | -     |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | -     | -     | -      | -     | -     |
| Mov Cap-1 Maneuver   | 1102   | - | - | 1102   | - | - | 172    | 212   | 603   | 195    | 212   | 603   |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | 172    | 212   | -     | 195    | 212   | -     |
| Stage 1              | -      | - | - | -      | - | - | 465    | 465   | -     | 538    | 565   | -     |
| Stage 2              | -      | - | - | -      | - | - | 513    | 562   | -     | 461    | 462   | -     |

|                      |    |    |      |      |
|----------------------|----|----|------|------|
| Approach             | EB | WB | NB   | SB   |
| HCM Control Delay, s | 1  | 0  | 27.7 | 13.7 |
| HCM LOS              |    |    | D    | B    |

|                       |       |       |     |     |       |     |     |       |
|-----------------------|-------|-------|-----|-----|-------|-----|-----|-------|
| Minor Lane/Major Mvmt | NBLn1 | EBL   | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
| Capacity (veh/h)      | 187   | 1102  | -   | -   | 1102  | -   | -   | 474   |
| HCM Lane V/C Ratio    | 0.154 | 0.055 | -   | -   | 0.001 | -   | -   | 0.127 |
| HCM Control Delay (s) | 27.7  | 8.5   | 0   | -   | 8.3   | 0   | -   | 13.7  |
| HCM Lane LOS          | D     | A     | A   | -   | A     | A   | -   | B     |
| HCM 95th %tile Q(veh) | 0.5   | 0.2   | -   | -   | 0     | -   | -   | 0.4   |



# Lanes, Volumes, Timings

## 14: East Site Access & Lakeshore Road

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (vph)       | 125                                                                               | 210                                                                               | 30                                                                                | 4                                                                                 | 177                                                                               | 17                                                                                | 90                                                                                | 0                                                                                   | 11                                                                                  | 17                                                                                  | 0                                                                                   | 125                                                                                 |
| Future Volume (vph)        | 125                                                                               | 210                                                                               | 30                                                                                | 4                                                                                 | 177                                                                               | 17                                                                                | 90                                                                                | 0                                                                                   | 11                                                                                  | 17                                                                                  | 0                                                                                   | 125                                                                                 |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Satd. Flow (prot)          | 0                                                                                 | 1788                                                                              | 0                                                                                 | 0                                                                                 | 1811                                                                              | 0                                                                                 | 0                                                                                 | 1775                                                                                | 0                                                                                   | 0                                                                                   | 1647                                                                                | 0                                                                                   |
| Flt Permitted              |                                                                                   | 0.983                                                                             |                                                                                   |                                                                                   | 0.999                                                                             |                                                                                   |                                                                                   | 0.957                                                                               |                                                                                     |                                                                                     | 0.994                                                                               |                                                                                     |
| Satd. Flow (perm)          | 0                                                                                 | 1788                                                                              | 0                                                                                 | 0                                                                                 | 1811                                                                              | 0                                                                                 | 0                                                                                 | 1775                                                                                | 0                                                                                   | 0                                                                                   | 1647                                                                                | 0                                                                                   |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 30                                                                                  |                                                                                     |                                                                                     | 30                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 475                                                                               |                                                                                   |                                                                                   | 621                                                                               |                                                                                   |                                                                                   | 334                                                                                 |                                                                                     |                                                                                     | 326                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 9.3                                                                               |                                                                                   |                                                                                   | 12.1                                                                              |                                                                                   |                                                                                   | 7.6                                                                                 |                                                                                     |                                                                                     | 7.4                                                                                 |                                                                                     |
| Peak Hour Factor           | 0.78                                                                              | 0.78                                                                              | 0.78                                                                              | 0.84                                                                              | 0.84                                                                              | 0.84                                                                              | 0.90                                                                              | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                |
| Heavy Vehicles (%)         | 1%                                                                                | 5%                                                                                | 1%                                                                                | 1%                                                                                | 4%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 0                                                                                 | 467                                                                               | 0                                                                                 | 0                                                                                 | 236                                                                               | 0                                                                                 | 0                                                                                 | 112                                                                                 | 0                                                                                   | 0                                                                                   | 158                                                                                 | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Sign Control               |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Stop                                                                                |                                                                                     |                                                                                     | Stop                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 58.0%

ICU Level of Service B

Analysis Period (min) 15



HCM 6th TWSC  
14: East Site Access & Lakeshore Road

07/05/2022

Intersection

| Int Delay, s/veh         | 8.2  |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      | ↔    |      |      | ↔    |      |      | ↔    |      |      | ↔    |      |
| Traffic Vol, veh/h       | 125  | 210  | 30   | 4    | 177  | 17   | 90   | 0    | 11   | 17   | 0    | 125  |
| Future Vol, veh/h        | 125  | 210  | 30   | 4    | 177  | 17   | 90   | 0    | 11   | 17   | 0    | 125  |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -    | None |
| Storage Length           | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 78   | 78   | 78   | 84   | 84   | 84   | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 1    | 5    | 1    | 1    | 4    | 1    | 1    | 1    | 1    | 1    | 1    | 1    |
| Mvmt Flow                | 160  | 269  | 38   | 5    | 211  | 20   | 100  | 0    | 12   | 19   | 0    | 139  |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |       |       | Minor2 |       |       |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Conflicting Flow All | 231    | 0 | 0 | 307    | 0 | 0 | 909    | 849   | 288   | 845    | 858   | 221   |
| Stage 1              | -      | - | - | -      | - | - | 608    | 608   | -     | 231    | 231   | -     |
| Stage 2              | -      | - | - | -      | - | - | 301    | 241   | -     | 614    | 627   | -     |
| Critical Hdwy        | 4.11   | - | - | 4.11   | - | - | 7.11   | 6.51  | 6.21  | 7.11   | 6.51  | 6.21  |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | 6.11   | 5.51  | -     | 6.11   | 5.51  | -     |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | 6.11   | 5.51  | -     | 6.11   | 5.51  | -     |
| Follow-up Hdwy       | 2.209  | - | - | 2.209  | - | - | 3.509  | 4.009 | 3.309 | 3.509  | 4.009 | 3.309 |
| Pot Cap-1 Maneuver   | 1343   | - | - | 1259   | - | - | 257    | 299   | 753   | 284    | 295   | 821   |
| Stage 1              | -      | - | - | -      | - | - | 485    | 487   | -     | 774    | 715   | -     |
| Stage 2              | -      | - | - | -      | - | - | 710    | 708   | -     | 481    | 478   | -     |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | -     | -     | -      | -     | -     |
| Mov Cap-1 Maneuver   | 1343   | - | - | 1259   | - | - | 189    | 255   | 753   | 248    | 251   | 821   |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | 189    | 255   | -     | 248    | 251   | -     |
| Stage 1              | -      | - | - | -      | - | - | 415    | 417   | -     | 663    | 711   | -     |
| Stage 2              | -      | - | - | -      | - | - | 587    | 704   | -     | 405    | 409   | -     |

| Approach             | EB  |  |  | WB  |  |  | NB   |  |  | SB   |  |  |
|----------------------|-----|--|--|-----|--|--|------|--|--|------|--|--|
| HCM Control Delay, s | 2.8 |  |  | 0.2 |  |  | 41.6 |  |  | 12.4 |  |  |
| HCM LOS              |     |  |  |     |  |  | E    |  |  | B    |  |  |

| Minor Lane/Major Mvmt | NBLn1 | EBL   | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 206   | 1343  | -   | -   | 1259  | -   | -   | 643   |
| HCM Lane V/C Ratio    | 0.545 | 0.119 | -   | -   | 0.004 | -   | -   | 0.245 |
| HCM Control Delay (s) | 41.6  | 8     | 0   | -   | 7.9   | 0   | -   | 12.4  |
| HCM Lane LOS          | E     | A     | A   | -   | A     | A   | -   | B     |
| HCM 95th %tile Q(veh) | 2.9   | 0.4   | -   | -   | 0     | -   | -   | 1     |



# Lanes, Volumes, Timings

## 1: Route 11 & Route 31

07/05/2022

|                            |  |  |  |  |  |  |   |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |  |  |                                                                                   |  |  |                                                                                   |  |  |  |  |  |                                                                                     |
| Traffic Volume (vph)       | 66                                                                                | 559                                                                               | 111                                                                               | 486                                                                               | 647                                                                               | 137                                                                               | 137                                                                                | 328                                                                                 | 602                                                                                 | 215                                                                                 | 198                                                                                 | 95                                                                                  |
| Future Volume (vph)        | 66                                                                                | 559                                                                               | 111                                                                               | 486                                                                               | 647                                                                               | 137                                                                               | 137                                                                                | 328                                                                                 | 602                                                                                 | 215                                                                                 | 198                                                                                 | 95                                                                                  |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                               | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 200                                                                               |                                                                                   | 310                                                                               | 495                                                                               |                                                                                   | 0                                                                                 | 175                                                                                |                                                                                     | 0                                                                                   | 350                                                                                 |                                                                                     | 0                                                                                   |
| Storage Lanes              | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                  |                                                                                     | 1                                                                                   | 1                                                                                   |                                                                                     | 0                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                 |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 1787                                                                              | 3485                                                                              | 0                                                                                 | 1787                                                                              | 3481                                                                              | 0                                                                                 | 1787                                                                               | 1881                                                                                | 1599                                                                                | 1770                                                                                | 3366                                                                                | 0                                                                                   |
| Flt Permitted              | 0.310                                                                             |                                                                                   |                                                                                   | 0.118                                                                             |                                                                                   |                                                                                   | 0.487                                                                              |                                                                                     |                                                                                     | 0.175                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)          | 583                                                                               | 3485                                                                              | 0                                                                                 | 222                                                                               | 3481                                                                              | 0                                                                                 | 916                                                                                | 1881                                                                                | 1579                                                                                | 326                                                                                 | 3366                                                                                | 0                                                                                   |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                    |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 17                                                                                |                                                                                   |                                                                                    |                                                                                     | 70                                                                                  |                                                                                     | 54                                                                                  |                                                                                     |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                    | 35                                                                                  |                                                                                     |                                                                                     | 35                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 385                                                                               |                                                                                   |                                                                                   | 703                                                                               |                                                                                   |                                                                                    | 612                                                                                 |                                                                                     |                                                                                     | 561                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 7.5                                                                               |                                                                                   |                                                                                   | 13.7                                                                              |                                                                                   |                                                                                    | 11.9                                                                                |                                                                                     |                                                                                     | 10.9                                                                                |                                                                                     |
| Confl. Peds. (#/hr)        |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     | 1                                                                                   | 1                                                                                   |                                                                                     |                                                                                     |
| Peak Hour Factor           | 0.95                                                                              | 0.95                                                                              | 0.95                                                                              | 0.85                                                                              | 0.85                                                                              | 0.85                                                                              | 0.95                                                                               | 0.95                                                                                | 0.95                                                                                | 0.86                                                                                | 0.86                                                                                | 0.86                                                                                |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                 | 1%                                                                                  | 1%                                                                                  | 2%                                                                                  | 2%                                                                                  | 2%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 69                                                                                | 705                                                                               | 0                                                                                 | 572                                                                               | 922                                                                               | 0                                                                                 | 144                                                                                | 345                                                                                 | 634                                                                                 | 250                                                                                 | 340                                                                                 | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                 | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                               | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                    | 12                                                                                  |                                                                                     |                                                                                     | 12                                                                                  |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                    | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                    | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                 |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                              | NA                                                                                  | pm+ov                                                                               | pm+pt                                                                               | NA                                                                                  |                                                                                     |
| Protected Phases           | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 3                                                                                  | 8                                                                                   | 1                                                                                   | 7                                                                                   | 4                                                                                   |                                                                                     |
| Permitted Phases           | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                  |                                                                                     | 8                                                                                   | 4                                                                                   |                                                                                     |                                                                                     |
| Detector Phase             | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 3                                                                                  | 8                                                                                   | 1                                                                                   | 7                                                                                   | 4                                                                                   |                                                                                     |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 4.0                                                                               | 12.0                                                                              |                                                                                   | 8.0                                                                               | 12.0                                                                              |                                                                                   | 4.0                                                                                | 8.0                                                                                 | 8.0                                                                                 | 4.0                                                                                 | 8.0                                                                                 |                                                                                     |
| Minimum Split (s)          | 9.5                                                                               | 18.0                                                                              |                                                                                   | 13.5                                                                              | 18.0                                                                              |                                                                                   | 10.0                                                                               | 14.0                                                                                | 13.5                                                                                | 9.5                                                                                 | 14.0                                                                                |                                                                                     |
| Total Split (s)            | 40.0                                                                              | 40.0                                                                              |                                                                                   | 40.0                                                                              | 40.0                                                                              |                                                                                   | 20.0                                                                               | 40.0                                                                                | 40.0                                                                                | 20.0                                                                                | 40.0                                                                                |                                                                                     |
| Total Split (%)            | 28.6%                                                                             | 28.6%                                                                             |                                                                                   | 28.6%                                                                             | 28.6%                                                                             |                                                                                   | 14.3%                                                                              | 28.6%                                                                               | 28.6%                                                                               | 14.3%                                                                               | 28.6%                                                                               |                                                                                     |
| Maximum Green (s)          | 34.5                                                                              | 34.0                                                                              |                                                                                   | 34.5                                                                              | 34.0                                                                              |                                                                                   | 14.0                                                                               | 34.0                                                                                | 34.5                                                                                | 14.5                                                                                | 34.0                                                                                |                                                                                     |
| Yellow Time (s)            | 3.5                                                                               | 3.5                                                                               |                                                                                   | 3.5                                                                               | 3.5                                                                               |                                                                                   | 3.5                                                                                | 3.5                                                                                 | 3.5                                                                                 | 3.0                                                                                 | 3.5                                                                                 |                                                                                     |
| All-Red Time (s)           | 2.0                                                                               | 2.5                                                                               |                                                                                   | 2.0                                                                               | 2.5                                                                               |                                                                                   | 2.5                                                                                | 2.5                                                                                 | 2.0                                                                                 | 2.5                                                                                 | 2.5                                                                                 |                                                                                     |
| Lost Time Adjust (s)       | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                                | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)        | 5.5                                                                               | 6.0                                                                               |                                                                                   | 5.5                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                                | 6.0                                                                                 | 5.5                                                                                 | 5.5                                                                                 | 6.0                                                                                 |                                                                                     |
| Lead/Lag                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                               | Lag                                                                                 | Lead                                                                                | Lead                                                                                | Lag                                                                                 |                                                                                     |
| Lead-Lag Optimize?         | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                                | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 |                                                                                     |
| Vehicle Extension (s)      | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                                | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |
| Recall Mode                | None                                                                              | Min                                                                               |                                                                                   | None                                                                              | Min                                                                               |                                                                                   | None                                                                               | None                                                                                | None                                                                                | None                                                                                | None                                                                                |                                                                                     |
| Act Effect Green (s)       | 38.9                                                                              | 30.2                                                                              |                                                                                   | 70.9                                                                              | 59.4                                                                              |                                                                                   | 40.2                                                                               | 28.2                                                                                | 63.4                                                                                | 45.3                                                                                | 30.2                                                                                |                                                                                     |
| Actuated g/C Ratio         | 0.30                                                                              | 0.23                                                                              |                                                                                   | 0.54                                                                              | 0.45                                                                              |                                                                                   | 0.31                                                                               | 0.22                                                                                | 0.48                                                                                | 0.35                                                                                | 0.23                                                                                |                                                                                     |
| v/c Ratio                  | 0.28                                                                              | 0.86                                                                              |                                                                                   | 1.07                                                                              | 0.58                                                                              |                                                                                   | 0.40                                                                               | 0.85                                                                                | 0.79                                                                                | 0.91                                                                                | 0.42                                                                                |                                                                                     |



# Lanes, Volumes, Timings

## 1: Route 11 & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Control Delay           | 22.3                                                                              | 59.4                                                                              |                                                                                   | 95.0                                                                              | 29.4                                                                              |                                                                                   | 32.4                                                                              | 69.8                                                                                | 30.7                                                                                | 69.3                                                                                | 37.9                                                                                |                                                                                     |
| Queue Delay             | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Delay             | 22.3                                                                              | 59.4                                                                              |                                                                                   | 95.0                                                                              | 29.4                                                                              |                                                                                   | 32.4                                                                              | 69.8                                                                                | 30.7                                                                                | 69.3                                                                                | 37.9                                                                                |                                                                                     |
| LOS                     | C                                                                                 | E                                                                                 |                                                                                   | F                                                                                 | C                                                                                 |                                                                                   | C                                                                                 | E                                                                                   | C                                                                                   | E                                                                                   | D                                                                                   |                                                                                     |
| Approach Delay          |                                                                                   | 56.1                                                                              |                                                                                   |                                                                                   | 54.5                                                                              |                                                                                   |                                                                                   | 42.9                                                                                |                                                                                     |                                                                                     | 51.2                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | E                                                                                 |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | D                                                                                   |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 28                                                                                | 302                                                                               |                                                                                   | ~508                                                                              | 313                                                                               |                                                                                   | 86                                                                                | 290                                                                                 | 374                                                                                 | 158                                                                                 | 112                                                                                 |                                                                                     |
| Queue Length 95th (ft)  | 55                                                                                | 392                                                                               |                                                                                   | #706                                                                              | 383                                                                               |                                                                                   | 139                                                                               | 411                                                                                 | 538                                                                                 | #296                                                                                | 153                                                                                 |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 305                                                                               |                                                                                   |                                                                                   | 623                                                                               |                                                                                   |                                                                                   | 532                                                                                 |                                                                                     |                                                                                     | 481                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 200                                                                               |                                                                                   |                                                                                   | 495                                                                               |                                                                                   |                                                                                   | 175                                                                               |                                                                                     |                                                                                     | 350                                                                                 |                                                                                     |                                                                                     |
| Base Capacity (vph)     | 611                                                                               | 923                                                                               |                                                                                   | 535                                                                               | 1588                                                                              |                                                                                   | 389                                                                               | 491                                                                                 | 806                                                                                 | 274                                                                                 | 920                                                                                 |                                                                                     |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       | 0.11                                                                              | 0.76                                                                              |                                                                                   | 1.07                                                                              | 0.58                                                                              |                                                                                   | 0.37                                                                              | 0.70                                                                                | 0.79                                                                                | 0.91                                                                                | 0.37                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 130.8

Natural Cycle: 100

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.07

Intersection Signal Delay: 51.1

Intersection LOS: D

Intersection Capacity Utilization 94.3%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

### Splits and Phases: 1: Route 11 & Route 31

|                                                                                        |                                                                                        |                                                                                        |                                                                                          |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
|  Ø1 |  Ø2 |  Ø3 |  Ø4 |
| 40 s                                                                                   | 40 s                                                                                   | 20 s                                                                                   | 40 s                                                                                     |
|  Ø5 |  Ø6 |  Ø7 |  Ø8 |
| 40 s                                                                                   | 40 s                                                                                   | 20 s                                                                                   | 40 s                                                                                     |



# Lanes, Volumes, Timings

## 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |                                                                                   |  |                                                                                   |  |  |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |  |  |
| Traffic Volume (vph)       | 0                                                                                 | 1100                                                                              | 276                                                                               | 479                                                                               | 1133                                                                              | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 158                                                                                 | 6                                                                                   | 137                                                                                 |
| Future Volume (vph)        | 0                                                                                 | 1100                                                                              | 276                                                                               | 479                                                                               | 1133                                                                              | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 158                                                                                 | 6                                                                                   | 137                                                                                 |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 0                                                                                 |                                                                                   | 0                                                                                 | 150                                                                               |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     | 125                                                                                 |
| Storage Lanes              | 0                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     | 1                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 0                                                                                 | 3418                                                                              | 0                                                                                 | 1787                                                                              | 3574                                                                              | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 1760                                                                                | 1568                                                                                |
| Flt Permitted              |                                                                                   |                                                                                   |                                                                                   | 0.072                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 0.954                                                                               |                                                                                     |
| Satd. Flow (perm)          | 0                                                                                 | 3418                                                                              | 0                                                                                 | 135                                                                               | 3574                                                                              | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 1760                                                                                | 1568                                                                                |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   | 34                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 149                                                                                 |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 40                                                                                  |                                                                                     |                                                                                     | 40                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 703                                                                               |                                                                                   |                                                                                   | 360                                                                               |                                                                                   |                                                                                   | 622                                                                                 |                                                                                     |                                                                                     | 505                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 13.7                                                                              |                                                                                   |                                                                                   | 7.0                                                                               |                                                                                   |                                                                                   | 10.6                                                                                |                                                                                     |                                                                                     | 8.6                                                                                 |                                                                                     |
| Confl. Peds. (#/hr)        | 1                                                                                 |                                                                                   | 1                                                                                 | 1                                                                                 |                                                                                   | 1                                                                                 |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Peak Hour Factor           | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.96                                                                              | 0.96                                                                              | 0.96                                                                              | 0.90                                                                              | 0.90                                                                                | 0.90                                                                                | 0.84                                                                                | 0.84                                                                                | 0.84                                                                                |
| Heavy Vehicles (%)         | 2%                                                                                | 2%                                                                                | 2%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                  | 1%                                                                                  | 3%                                                                                  | 3%                                                                                  | 3%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 0                                                                                 | 1480                                                                              | 0                                                                                 | 499                                                                               | 1180                                                                              | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 195                                                                                 | 163                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  |                                                                                   | NA                                                                                |                                                                                   | pm+pt                                                                             | NA                                                                                |                                                                                   |                                                                                   |                                                                                     |                                                                                     | Perm                                                                                | NA                                                                                  | Perm                                                                                |
| Protected Phases           |                                                                                   | 2                                                                                 |                                                                                   | 1 3                                                                               | 6                                                                                 |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |
| Permitted Phases           |                                                                                   |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     | 4                                                                                   |
| Detector Phase             |                                                                                   | 2                                                                                 |                                                                                   | 1 3                                                                               | 6                                                                                 |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 4                                                                                   | 4                                                                                   | 4                                                                                   |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        |                                                                                   | 12.0                                                                              |                                                                                   |                                                                                   | 12.0                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 |
| Minimum Split (s)          |                                                                                   | 17.0                                                                              |                                                                                   |                                                                                   | 17.0                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 9.0                                                                                 | 9.0                                                                                 | 9.0                                                                                 |
| Total Split (s)            |                                                                                   | 50.0                                                                              |                                                                                   |                                                                                   | 91.0                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 19.0                                                                                | 19.0                                                                                | 19.0                                                                                |
| Total Split (%)            |                                                                                   | 45.5%                                                                             |                                                                                   |                                                                                   | 82.7%                                                                             |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 17.3%                                                                               | 17.3%                                                                               | 17.3%                                                                               |
| Maximum Green (s)          |                                                                                   | 45.0                                                                              |                                                                                   |                                                                                   | 86.0                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 14.0                                                                                | 14.0                                                                                | 14.0                                                                                |
| Yellow Time (s)            |                                                                                   | 3.5                                                                               |                                                                                   |                                                                                   | 3.5                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 |
| All-Red Time (s)           |                                                                                   | 1.5                                                                               |                                                                                   |                                                                                   | 1.5                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 1.0                                                                                 | 1.0                                                                                 | 1.0                                                                                 |
| Lost Time Adjust (s)       |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |
| Total Lost Time (s)        |                                                                                   | 5.0                                                                               |                                                                                   |                                                                                   | 5.0                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |
| Lead/Lag                   |                                                                                   | Lag                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?         |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Vehicle Extension (s)      |                                                                                   | 3.0                                                                               |                                                                                   |                                                                                   | 3.0                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |
| Recall Mode                |                                                                                   | C-Min                                                                             |                                                                                   |                                                                                   | C-Min                                                                             |                                                                                   |                                                                                   |                                                                                     |                                                                                     | None                                                                                | None                                                                                | None                                                                                |
| Act Effect Green (s)       |                                                                                   | 45.6                                                                              |                                                                                   | 85.8                                                                              | 85.8                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 14.2                                                                                | 14.2                                                                                |
| Actuated g/C Ratio         |                                                                                   | 0.41                                                                              |                                                                                   | 0.78                                                                              | 0.78                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 0.13                                                                                | 0.13                                                                                |
| v/c Ratio                  |                                                                                   | 1.03                                                                              |                                                                                   | 0.89                                                                              | 0.42                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 0.86                                                                                | 0.49                                                                                |



# Lanes, Volumes, Timings

## 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

07/05/2022

| Lane Group                 | Ø1   | Ø3   |
|----------------------------|------|------|
| Lane Configurations        |      |      |
| Traffic Volume (vph)       |      |      |
| Future Volume (vph)        |      |      |
| Ideal Flow (vphpl)         |      |      |
| Storage Length (ft)        |      |      |
| Storage Lanes              |      |      |
| Taper Length (ft)          |      |      |
| Satd. Flow (prot)          |      |      |
| Flt Permitted              |      |      |
| Satd. Flow (perm)          |      |      |
| Right Turn on Red          |      |      |
| Satd. Flow (RTOR)          |      |      |
| Link Speed (mph)           |      |      |
| Link Distance (ft)         |      |      |
| Travel Time (s)            |      |      |
| Confl. Peds. (#/hr)        |      |      |
| Peak Hour Factor           |      |      |
| Heavy Vehicles (%)         |      |      |
| Shared Lane Traffic (%)    |      |      |
| Lane Group Flow (vph)      |      |      |
| Enter Blocked Intersection |      |      |
| Lane Alignment             |      |      |
| Median Width(ft)           |      |      |
| Link Offset(ft)            |      |      |
| Crosswalk Width(ft)        |      |      |
| Two way Left Turn Lane     |      |      |
| Headway Factor             |      |      |
| Turning Speed (mph)        |      |      |
| Turn Type                  |      |      |
| Protected Phases           | 1    | 3    |
| Permitted Phases           |      |      |
| Detector Phase             |      |      |
| Switch Phase               |      |      |
| Minimum Initial (s)        | 4.0  | 4.0  |
| Minimum Split (s)          | 9.0  | 9.0  |
| Total Split (s)            | 13.0 | 28.0 |
| Total Split (%)            | 12%  | 25%  |
| Maximum Green (s)          | 8.0  | 23.0 |
| Yellow Time (s)            | 3.5  | 3.5  |
| All-Red Time (s)           | 1.5  | 1.5  |
| Lost Time Adjust (s)       |      |      |
| Total Lost Time (s)        |      |      |
| Lead/Lag                   | Lead |      |
| Lead-Lag Optimize?         | Yes  |      |
| Vehicle Extension (s)      | 3.0  | 3.0  |
| Recall Mode                | None | None |
| Act Effect Green (s)       |      |      |
| Actuated g/C Ratio         |      |      |
| v/c Ratio                  |      |      |



# Lanes, Volumes, Timings

## 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Control Delay           |                                                                                   | 64.0                                                                              |                                                                                   | 32.7                                                                              | 0.8                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 79.8                                                                                | 14.6                                                                                |
| Queue Delay             |                                                                                   | 27.3                                                                              |                                                                                   | 55.6                                                                              | 2.4                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 5.5                                                                                 | 0.0                                                                                 |
| Total Delay             |                                                                                   | 91.3                                                                              |                                                                                   | 88.3                                                                              | 3.2                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 85.3                                                                                | 14.6                                                                                |
| LOS                     |                                                                                   | F                                                                                 |                                                                                   | F                                                                                 | A                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | F                                                                                   | B                                                                                   |
| Approach Delay          |                                                                                   | 91.3                                                                              |                                                                                   |                                                                                   | 28.5                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 53.1                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | F                                                                                 |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Queue Length 50th (ft)  |                                                                                   | ~590                                                                              |                                                                                   | 243                                                                               | 12                                                                                |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 137                                                                                 | 9                                                                                   |
| Queue Length 95th (ft)  |                                                                                   | #731                                                                              |                                                                                   | m242                                                                              | m21                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | #239                                                                                | 59                                                                                  |
| Internal Link Dist (ft) |                                                                                   | 623                                                                               |                                                                                   |                                                                                   | 280                                                                               |                                                                                   |                                                                                    | 542                                                                                 |                                                                                     |                                                                                     | 425                                                                                 |                                                                                     |
| Turn Bay Length (ft)    |                                                                                   |                                                                                   |                                                                                   | 150                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 125                                                                                 |
| Base Capacity (vph)     |                                                                                   | 1435                                                                              |                                                                                   | 588                                                                               | 2800                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 230                                                                                 | 334                                                                                 |
| Starvation Cap Reductn  |                                                                                   | 0                                                                                 |                                                                                   | 301                                                                               | 1443                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 0                                                                                   | 0                                                                                   |
| Spillback Cap Reductn   |                                                                                   | 190                                                                               |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 14                                                                                  | 0                                                                                   |
| Storage Cap Reductn     |                                                                                   | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 0                                                                                   | 0                                                                                   |
| Reduced v/c Ratio       |                                                                                   | 1.19                                                                              |                                                                                   | 1.74                                                                              | 0.87                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 0.90                                                                                | 0.49                                                                                |

### Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 8 (7%), Referenced to phase 2:EBT and 6:WBTL, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.03

Intersection Signal Delay: 57.4

Intersection LOS: E

Intersection Capacity Utilization 87.3%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

### Splits and Phases: 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

|                                                                                     |                                                                                     |                                                                                     |                                                                                       |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  |  |  |  |
| Ø1                                                                                  | Ø2 (R)                                                                              | Ø3                                                                                  | Ø4                                                                                    |
| 13 s                                                                                | 50 s                                                                                | 28 s                                                                                | 19 s                                                                                  |
|  |  |  |                                                                                       |
| Ø6 (R)                                                                              |                                                                                     |                                                                                     |                                                                                       |
| 91 s                                                                                |                                                                                     |                                                                                     |                                                                                       |



## Lanes, Volumes, Timings

### 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

07/05/2022

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| Lane Group | Ø1 | Ø3 |
|------------|----|----|
|------------|----|----|

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Control Delay

Queue Delay

Total Delay

LOS

Approach Delay

Approach LOS

Queue Length 50th (ft)

Queue Length 95th (ft)

Internal Link Dist (ft)

Turn Bay Length (ft)

Base Capacity (vph)

Starvation Cap Reductn

Spillback Cap Reductn

Storage Cap Reductn

Reduced v/c Ratio

Intersection Summary

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# Lanes, Volumes, Timings

## 3: I-81 NB Offramp/Pardee Road & Route 31

07/05/2022

|                            |  |  |  |  |  |  |    |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |  |  |                                                                                   |                                                                                   |  |                                                                                   |  |  |  |                                                                                     |                                                                                     |  |
| Traffic Volume (vph)       | 281                                                                               | 977                                                                               | 0                                                                                 | 0                                                                                 | 1120                                                                              | 286                                                                               | 359                                                                                 | 124                                                                                 | 757                                                                                 | 0                                                                                   | 0                                                                                   | 133                                                                                 |
| Future Volume (vph)        | 281                                                                               | 977                                                                               | 0                                                                                 | 0                                                                                 | 1120                                                                              | 286                                                                               | 359                                                                                 | 124                                                                                 | 757                                                                                 | 0                                                                                   | 0                                                                                   | 133                                                                                 |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 85                                                                                |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 310                                                                                 |                                                                                     | 100                                                                                 | 0                                                                                   |                                                                                     | 0                                                                                   |
| Storage Lanes              | 1                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                   |                                                                                     | 1                                                                                   | 0                                                                                   |                                                                                     | 1                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                  |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 1770                                                                              | 3539                                                                              | 0                                                                                 | 0                                                                                 | 3414                                                                              | 0                                                                                 | 1752                                                                                | 1845                                                                                | 1568                                                                                | 0                                                                                   | 0                                                                                   | 1596                                                                                |
| Flt Permitted              | 0.099                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.950                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Satd. Flow (perm)          | 184                                                                               | 3539                                                                              | 0                                                                                 | 0                                                                                 | 3414                                                                              | 0                                                                                 | 1752                                                                                | 1845                                                                                | 1568                                                                                | 0                                                                                   | 0                                                                                   | 1596                                                                                |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                     |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 28                                                                                |                                                                                   |                                                                                     |                                                                                     | 74                                                                                  |                                                                                     |                                                                                     | 123                                                                                 |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                     | 40                                                                                  |                                                                                     |                                                                                     | 55                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 360                                                                               |                                                                                   |                                                                                   | 1082                                                                              |                                                                                   |                                                                                     | 639                                                                                 |                                                                                     |                                                                                     | 500                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 7.0                                                                               |                                                                                   |                                                                                   | 21.1                                                                              |                                                                                   |                                                                                     | 10.9                                                                                |                                                                                     |                                                                                     | 6.2                                                                                 |                                                                                     |
| Confl. Peds. (#/hr)        | 1                                                                                 |                                                                                   | 2                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Peak Hour Factor           | 0.84                                                                              | 0.84                                                                              | 0.84                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.84                                                                                | 0.84                                                                                | 0.84                                                                                | 0.75                                                                                | 0.75                                                                                | 0.75                                                                                |
| Heavy Vehicles (%)         | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 3%                                                                                  | 3%                                                                                  | 3%                                                                                  | 3%                                                                                  | 3%                                                                                  | 3%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 335                                                                               | 1163                                                                              | 0                                                                                 | 0                                                                                 | 1528                                                                              | 0                                                                                 | 427                                                                                 | 148                                                                                 | 901                                                                                 | 0                                                                                   | 0                                                                                   | 177                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                                | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                     | 12                                                                                  |                                                                                     |                                                                                     | 12                                                                                  |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                     | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                     | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                  |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | pm+pt                                                                             | NA                                                                                |                                                                                   |                                                                                   | NA                                                                                |                                                                                   | Perm                                                                                | NA                                                                                  | Perm                                                                                |                                                                                     |                                                                                     | Over                                                                                |
| Protected Phases           | 5                                                                                 | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                     | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     | 5                                                                                   |
| Permitted Phases           | 2                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 8                                                                                   |                                                                                     | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Detector Phase             | 5                                                                                 | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   | 8                                                                                   | 8                                                                                   | 8                                                                                   |                                                                                     |                                                                                     | 5                                                                                   |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 4.0                                                                               | 12.0                                                                              |                                                                                   |                                                                                   | 12.0                                                                              |                                                                                   | 6.0                                                                                 | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |                                                                                     | 4.0                                                                                 |
| Minimum Split (s)          | 9.0                                                                               | 17.5                                                                              |                                                                                   |                                                                                   | 17.5                                                                              |                                                                                   | 12.0                                                                                | 12.0                                                                                | 12.0                                                                                |                                                                                     |                                                                                     | 9.0                                                                                 |
| Total Split (s)            | 31.0                                                                              | 66.0                                                                              |                                                                                   |                                                                                   | 35.0                                                                              |                                                                                   | 44.0                                                                                | 44.0                                                                                | 44.0                                                                                |                                                                                     |                                                                                     | 31.0                                                                                |
| Total Split (%)            | 28.2%                                                                             | 60.0%                                                                             |                                                                                   |                                                                                   | 31.8%                                                                             |                                                                                   | 40.0%                                                                               | 40.0%                                                                               | 40.0%                                                                               |                                                                                     |                                                                                     | 28.2%                                                                               |
| Maximum Green (s)          | 26.0                                                                              | 60.5                                                                              |                                                                                   |                                                                                   | 29.5                                                                              |                                                                                   | 38.0                                                                                | 38.0                                                                                | 38.0                                                                                |                                                                                     |                                                                                     | 26.0                                                                                |
| Yellow Time (s)            | 3.0                                                                               | 3.5                                                                               |                                                                                   |                                                                                   | 3.5                                                                               |                                                                                   | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 |                                                                                     |                                                                                     | 3.0                                                                                 |
| All-Red Time (s)           | 2.0                                                                               | 2.0                                                                               |                                                                                   |                                                                                   | 2.0                                                                               |                                                                                   | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 |                                                                                     |                                                                                     | 2.0                                                                                 |
| Lost Time Adjust (s)       | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |                                                                                     | 0.0                                                                                 |
| Total Lost Time (s)        | 5.0                                                                               | 5.5                                                                               |                                                                                   |                                                                                   | 5.5                                                                               |                                                                                   | 6.0                                                                                 | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |                                                                                     | 5.0                                                                                 |
| Lead/Lag                   | Lead                                                                              |                                                                                   |                                                                                   |                                                                                   | Lag                                                                               |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | Lead                                                                                |
| Lead-Lag Optimize?         | Yes                                                                               |                                                                                   |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | Yes                                                                                 |
| Vehicle Extension (s)      | 3.0                                                                               | 3.0                                                                               |                                                                                   |                                                                                   | 3.0                                                                               |                                                                                   | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |                                                                                     | 3.0                                                                                 |
| Recall Mode                | None                                                                              | C-Min                                                                             |                                                                                   |                                                                                   | C-Min                                                                             |                                                                                   | None                                                                                | None                                                                                | None                                                                                |                                                                                     |                                                                                     | None                                                                                |
| Act Effct Green (s)        | 61.0                                                                              | 60.5                                                                              |                                                                                   |                                                                                   | 35.3                                                                              |                                                                                   | 38.0                                                                                | 38.0                                                                                | 38.0                                                                                |                                                                                     |                                                                                     | 20.2                                                                                |
| Actuated g/C Ratio         | 0.55                                                                              | 0.55                                                                              |                                                                                   |                                                                                   | 0.32                                                                              |                                                                                   | 0.35                                                                                | 0.35                                                                                | 0.35                                                                                |                                                                                     |                                                                                     | 0.18                                                                                |
| v/c Ratio                  | 0.85                                                                              | 0.60                                                                              |                                                                                   |                                                                                   | 1.37                                                                              |                                                                                   | 0.71                                                                                | 0.23                                                                                | 1.53                                                                                |                                                                                     |                                                                                     | 0.45                                                                                |



# Lanes, Volumes, Timings

## 3: I-81 NB Offramp/Pardee Road & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Control Delay           | 43.6                                                                              | 31.0                                                                              |                                                                                   |                                                                                   | 203.2                                                                             |                                                                                   | 38.7                                                                              | 26.9                                                                                | 272.8                                                                               |                                                                                     |                                                                                     | 16.5                                                                                |
| Queue Delay             | 1.2                                                                               | 49.7                                                                              |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   | 2.6                                                                               | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |                                                                                     | 0.0                                                                                 |
| Total Delay             | 44.8                                                                              | 80.7                                                                              |                                                                                   |                                                                                   | 203.2                                                                             |                                                                                   | 41.4                                                                              | 26.9                                                                                | 272.8                                                                               |                                                                                     |                                                                                     | 16.5                                                                                |
| LOS                     | D                                                                                 | F                                                                                 |                                                                                   |                                                                                   | F                                                                                 |                                                                                   | D                                                                                 | C                                                                                   | F                                                                                   |                                                                                     |                                                                                     | B                                                                                   |
| Approach Delay          |                                                                                   | 72.7                                                                              |                                                                                   |                                                                                   | 203.2                                                                             |                                                                                   |                                                                                   | 181.2                                                                               |                                                                                     |                                                                                     | 16.5                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | E                                                                                 |                                                                                   |                                                                                   | F                                                                                 |                                                                                   |                                                                                   | F                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 204                                                                               | 335                                                                               |                                                                                   |                                                                                   | ~756                                                                              |                                                                                   | 259                                                                               | 74                                                                                  | ~864                                                                                |                                                                                     |                                                                                     | 32                                                                                  |
| Queue Length 95th (ft)  | m209                                                                              | m332                                                                              |                                                                                   |                                                                                   | #962                                                                              |                                                                                   | 341                                                                               | 115                                                                                 | #1004                                                                               |                                                                                     |                                                                                     | 60                                                                                  |
| Internal Link Dist (ft) |                                                                                   | 280                                                                               |                                                                                   |                                                                                   | 1002                                                                              |                                                                                   |                                                                                   | 559                                                                                 |                                                                                     |                                                                                     | 420                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 85                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 310                                                                               |                                                                                     | 100                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| Base Capacity (vph)     | 476                                                                               | 1946                                                                              |                                                                                   |                                                                                   | 1116                                                                              |                                                                                   | 605                                                                               | 637                                                                                 | 590                                                                                 |                                                                                     |                                                                                     | 471                                                                                 |
| Starvation Cap Reductn  | 38                                                                                | 900                                                                               |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 1                                                                                 |                                                                                   | 89                                                                                | 0                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 11                                                                                  |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |
| Reduced v/c Ratio       | 0.76                                                                              | 1.11                                                                              |                                                                                   |                                                                                   | 1.37                                                                              |                                                                                   | 0.83                                                                              | 0.23                                                                                | 1.53                                                                                |                                                                                     |                                                                                     | 0.38                                                                                |

### Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 87 (79%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.53

Intersection Signal Delay: 147.4

Intersection LOS: F

Intersection Capacity Utilization 89.3%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

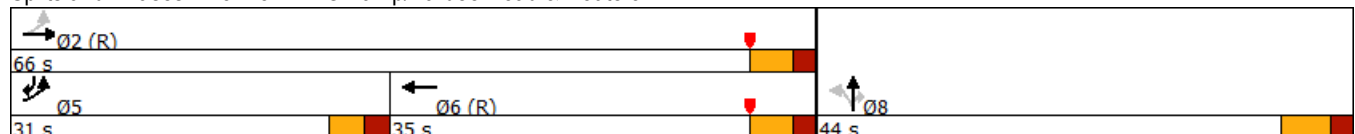
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: I-81 NB Offramp/Pardee Road & Route 31





# Lanes, Volumes, Timings

## 4: Route 31 & Lakeshore Road

07/05/2022

|                            |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | WBT                                                                               | WBR                                                                               | SBL                                                                               | SBR                                                                               |
| Lane Configurations        |  |  |  |                                                                                   |  |                                                                                   |
| Traffic Volume (vph)       | 720                                                                               | 1014                                                                              | 922                                                                               | 1                                                                                 | 0                                                                                 | 484                                                                               |
| Future Volume (vph)        | 720                                                                               | 1014                                                                              | 922                                                                               | 1                                                                                 | 0                                                                                 | 484                                                                               |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Storage Length (ft)        | 225                                                                               |                                                                                   |                                                                                   | 0                                                                                 | 0                                                                                 | 0                                                                                 |
| Storage Lanes              | 1                                                                                 |                                                                                   |                                                                                   | 0                                                                                 | 1                                                                                 | 0                                                                                 |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |
| Satd. Flow (prot)          | 1787                                                                              | 3574                                                                              | 1863                                                                              | 0                                                                                 | 1611                                                                              | 0                                                                                 |
| Flt Permitted              | 0.950                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Satd. Flow (perm)          | 1787                                                                              | 3574                                                                              | 1863                                                                              | 0                                                                                 | 1611                                                                              | 0                                                                                 |
| Link Speed (mph)           |                                                                                   | 35                                                                                | 35                                                                                |                                                                                   | 35                                                                                |                                                                                   |
| Link Distance (ft)         |                                                                                   | 1082                                                                              | 959                                                                               |                                                                                   | 962                                                                               |                                                                                   |
| Travel Time (s)            |                                                                                   | 21.1                                                                              | 18.7                                                                              |                                                                                   | 18.7                                                                              |                                                                                   |
| Peak Hour Factor           | 0.92                                                                              | 0.92                                                                              | 0.93                                                                              | 0.93                                                                              | 0.91                                                                              | 0.91                                                                              |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)      | 783                                                                               | 1102                                                                              | 992                                                                               | 0                                                                                 | 532                                                                               | 0                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment             | Left                                                                              | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Right                                                                             |
| Median Width(ft)           |                                                                                   | 12                                                                                | 12                                                                                |                                                                                   | 12                                                                                |                                                                                   |
| Link Offset(ft)            |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 |                                                                                   |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                | 16                                                                                |                                                                                   | 16                                                                                |                                                                                   |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (mph)        | 15                                                                                |                                                                                   |                                                                                   | 9                                                                                 | 15                                                                                | 9                                                                                 |
| Sign Control               |                                                                                   | Free                                                                              | Free                                                                              |                                                                                   | Stop                                                                              |                                                                                   |

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 128.4%

ICU Level of Service H

Analysis Period (min) 15



HCM 6th TWSC  
4: Route 31 & Lakeshore Road

07/05/2022

Intersection

| Int Delay, s/veh         | 83.8                                                                              |                                                                                   |                                                                                   |      |                                                                                   |      |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|------|
| Movement                 | EBL                                                                               | EBT                                                                               | WBT                                                                               | WBR  | SBL                                                                               | SBR  |
| Lane Configurations      |  |  |  |      |  |      |
| Traffic Vol, veh/h       | 720                                                                               | 1014                                                                              | 922                                                                               | 1    | 0                                                                                 | 484  |
| Future Vol, veh/h        | 720                                                                               | 1014                                                                              | 922                                                                               | 1    | 0                                                                                 | 484  |
| Conflicting Peds, #/hr   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0    | 0                                                                                 | 0    |
| Sign Control             | Free                                                                              | Free                                                                              | Free                                                                              | Free | Stop                                                                              | Stop |
| RT Channelized           | -                                                                                 | None                                                                              | -                                                                                 | None | -                                                                                 | None |
| Storage Length           | 225                                                                               | -                                                                                 | -                                                                                 | -    | 0                                                                                 | -    |
| Veh in Median Storage, # | -                                                                                 | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Grade, %                 | -                                                                                 | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Peak Hour Factor         | 92                                                                                | 92                                                                                | 93                                                                                | 93   | 91                                                                                | 91   |
| Heavy Vehicles, %        | 1                                                                                 | 1                                                                                 | 2                                                                                 | 2    | 2                                                                                 | 2    |
| Mvmt Flow                | 783                                                                               | 1102                                                                              | 991                                                                               | 1    | 0                                                                                 | 532  |

| Major/Minor          | Major1 | Major2 | Minor2        |
|----------------------|--------|--------|---------------|
| Conflicting Flow All | 992    | 0      | 0 3109 992    |
| Stage 1              | -      | -      | - 992 -       |
| Stage 2              | -      | -      | - 2117 -      |
| Critical Hdwy        | 4.115  | -      | - 6.63 6.23   |
| Critical Hdwy Stg 1  | -      | -      | - 5.43 -      |
| Critical Hdwy Stg 2  | -      | -      | - 5.83 -      |
| Follow-up Hdwy       | 2.2095 | -      | - 3.519 3.319 |
| Pot Cap-1 Maneuver   | ~ 700  | -      | - 11 ~ 297    |
| Stage 1              | -      | -      | - 358 -       |
| Stage 2              | -      | -      | - 79 -        |
| Platoon blocked, %   | -      | -      | -             |
| Mov Cap-1 Maneuver   | ~ 700  | -      | - 0 ~ 297     |
| Mov Cap-2 Maneuver   | -      | -      | - 0 -         |
| Stage 1              | -      | -      | - 0 -         |
| Stage 2              | -      | -      | - 79 -        |

| Approach             | EB   | WB | SB       |
|----------------------|------|----|----------|
| HCM Control Delay, s | 39.1 | 0  | \$ 398.6 |
| HCM LOS              |      |    | F        |

| Minor Lane/Major Mvmt | EBL   | EBT | WBT | WBR | SBLn1    |
|-----------------------|-------|-----|-----|-----|----------|
| Capacity (veh/h)      | ~ 700 | -   | -   | -   | 297      |
| HCM Lane V/C Ratio    | 1.118 | -   | -   | -   | 1.791    |
| HCM Control Delay (s) | 94.1  | -   | -   | -   | \$ 398.6 |
| HCM Lane LOS          | F     | -   | -   | -   | F        |
| HCM 95th %tile Q(veh) | 23.1  | -   | -   | -   | 35       |

Notes

~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon



Lanes, Volumes, Timings  
5: South Bay Road & Route 31

07/05/2022

|                            |  |  |  |  |  |  |   |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |  |  |                                                                                   |  |  |                                                                                   |  |  |                                                                                     |  |  |                                                                                     |
| Traffic Volume (vph)       | 128                                                                               | 446                                                                               | 111                                                                               | 141                                                                               | 343                                                                               | 19                                                                                | 76                                                                                 | 478                                                                                 | 207                                                                                 | 8                                                                                   | 276                                                                                 | 102                                                                                 |
| Future Volume (vph)        | 128                                                                               | 446                                                                               | 111                                                                               | 141                                                                               | 343                                                                               | 19                                                                                | 76                                                                                 | 478                                                                                 | 207                                                                                 | 8                                                                                   | 276                                                                                 | 102                                                                                 |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                               | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 225                                                                               |                                                                                   | 0                                                                                 | 225                                                                               |                                                                                   | 0                                                                                 | 280                                                                                |                                                                                     | 0                                                                                   | 225                                                                                 |                                                                                     | 0                                                                                   |
| Storage Lanes              | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                  |                                                                                     | 0                                                                                   | 1                                                                                   |                                                                                     | 0                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                 |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 1770                                                                              | 1807                                                                              | 0                                                                                 | 1752                                                                              | 1830                                                                              | 0                                                                                 | 1770                                                                               | 1779                                                                                | 0                                                                                   | 1770                                                                                | 1778                                                                                | 0                                                                                   |
| Flt Permitted              | 0.351                                                                             |                                                                                   |                                                                                   | 0.110                                                                             |                                                                                   |                                                                                   | 0.237                                                                              |                                                                                     |                                                                                     | 0.110                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)          | 654                                                                               | 1807                                                                              | 0                                                                                 | 203                                                                               | 1830                                                                              | 0                                                                                 | 441                                                                                | 1779                                                                                | 0                                                                                   | 205                                                                                 | 1778                                                                                | 0                                                                                   |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                    |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 3                                                                                 |                                                                                   |                                                                                    | 21                                                                                  |                                                                                     |                                                                                     | 18                                                                                  |                                                                                     |
| Link Speed (mph)           |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 55                                                                                |                                                                                   |                                                                                    | 45                                                                                  |                                                                                     |                                                                                     | 45                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 788                                                                               |                                                                                   |                                                                                   | 825                                                                               |                                                                                   |                                                                                    | 794                                                                                 |                                                                                     |                                                                                     | 652                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 11.9                                                                              |                                                                                   |                                                                                   | 10.2                                                                              |                                                                                   |                                                                                    | 12.0                                                                                |                                                                                     |                                                                                     | 9.9                                                                                 |                                                                                     |
| Confl. Peds. (#/hr)        |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1                                                                                  |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 1                                                                                   |
| Peak Hour Factor           | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.86                                                                               | 0.86                                                                                | 0.86                                                                                | 0.85                                                                                | 0.85                                                                                | 0.85                                                                                |
| Heavy Vehicles (%)         | 2%                                                                                | 2%                                                                                | 2%                                                                                | 3%                                                                                | 3%                                                                                | 3%                                                                                | 2%                                                                                 | 2%                                                                                  | 2%                                                                                  | 2%                                                                                  | 2%                                                                                  | 2%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 139                                                                               | 606                                                                               | 0                                                                                 | 152                                                                               | 389                                                                               | 0                                                                                 | 88                                                                                 | 797                                                                                 | 0                                                                                   | 9                                                                                   | 445                                                                                 | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                 | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                               | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                    | 12                                                                                  |                                                                                     |                                                                                     | 12                                                                                  |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                    | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                    | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                 |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                              | NA                                                                                  |                                                                                     | pm+pt                                                                               | NA                                                                                  |                                                                                     |
| Protected Phases           | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 3                                                                                  | 8                                                                                   |                                                                                     | 7                                                                                   | 4                                                                                   |                                                                                     |
| Permitted Phases           | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                  |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |                                                                                     |
| Detector Phase             | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 3                                                                                  | 8                                                                                   |                                                                                     | 7                                                                                   | 4                                                                                   |                                                                                     |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 6.0                                                                               | 15.0                                                                              |                                                                                   | 6.0                                                                               | 15.0                                                                              |                                                                                   | 6.0                                                                                | 10.0                                                                                |                                                                                     | 6.0                                                                                 | 10.0                                                                                |                                                                                     |
| Minimum Split (s)          | 10.5                                                                              | 22.8                                                                              |                                                                                   | 10.5                                                                              | 22.8                                                                              |                                                                                   | 10.5                                                                               | 16.8                                                                                |                                                                                     | 10.5                                                                                | 16.8                                                                                |                                                                                     |
| Total Split (s)            | 12.0                                                                              | 44.0                                                                              |                                                                                   | 12.0                                                                              | 44.0                                                                              |                                                                                   | 12.0                                                                               | 42.0                                                                                |                                                                                     | 12.0                                                                                | 42.0                                                                                |                                                                                     |
| Total Split (%)            | 10.9%                                                                             | 40.0%                                                                             |                                                                                   | 10.9%                                                                             | 40.0%                                                                             |                                                                                   | 10.9%                                                                              | 38.2%                                                                               |                                                                                     | 10.9%                                                                               | 38.2%                                                                               |                                                                                     |
| Maximum Green (s)          | 7.5                                                                               | 36.2                                                                              |                                                                                   | 7.5                                                                               | 36.2                                                                              |                                                                                   | 7.5                                                                                | 35.2                                                                                |                                                                                     | 7.5                                                                                 | 35.2                                                                                |                                                                                     |
| Yellow Time (s)            | 3.5                                                                               | 4.9                                                                               |                                                                                   | 3.5                                                                               | 4.9                                                                               |                                                                                   | 3.5                                                                                | 4.9                                                                                 |                                                                                     | 3.5                                                                                 | 4.9                                                                                 |                                                                                     |
| All-Red Time (s)           | 1.0                                                                               | 2.9                                                                               |                                                                                   | 1.0                                                                               | 2.9                                                                               |                                                                                   | 1.0                                                                                | 1.9                                                                                 |                                                                                     | 1.0                                                                                 | 1.9                                                                                 |                                                                                     |
| Lost Time Adjust (s)       | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                                | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)        | 4.5                                                                               | 7.8                                                                               |                                                                                   | 4.5                                                                               | 7.8                                                                               |                                                                                   | 4.5                                                                                | 6.8                                                                                 |                                                                                     | 4.5                                                                                 | 6.8                                                                                 |                                                                                     |
| Lead/Lag                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                               | Lag                                                                                 |                                                                                     | Lead                                                                                | Lag                                                                                 |                                                                                     |
| Lead-Lag Optimize?         | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                                | Yes                                                                                 |                                                                                     | Yes                                                                                 | Yes                                                                                 |                                                                                     |
| Vehicle Extension (s)      | 3.0                                                                               | 6.0                                                                               |                                                                                   | 3.0                                                                               | 6.0                                                                               |                                                                                   | 3.0                                                                                | 6.0                                                                                 |                                                                                     | 3.0                                                                                 | 6.0                                                                                 |                                                                                     |
| Minimum Gap (s)            | 3.0                                                                               | 2.0                                                                               |                                                                                   | 3.0                                                                               | 2.0                                                                               |                                                                                   | 3.0                                                                                | 2.0                                                                                 |                                                                                     | 3.0                                                                                 | 2.0                                                                                 |                                                                                     |
| Time Before Reduce (s)     | 0.0                                                                               | 10.0                                                                              |                                                                                   | 0.0                                                                               | 10.0                                                                              |                                                                                   | 0.0                                                                                | 10.0                                                                                |                                                                                     | 0.0                                                                                 | 10.0                                                                                |                                                                                     |
| Time To Reduce (s)         | 0.0                                                                               | 15.0                                                                              |                                                                                   | 0.0                                                                               | 15.0                                                                              |                                                                                   | 0.0                                                                                | 15.0                                                                                |                                                                                     | 0.0                                                                                 | 15.0                                                                                |                                                                                     |
| Recall Mode                | None                                                                              | Min                                                                               |                                                                                   | None                                                                              | Min                                                                               |                                                                                   | None                                                                               | None                                                                                |                                                                                     | None                                                                                | None                                                                                |                                                                                     |



# Lanes, Volumes, Timings

## 5: South Bay Road & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Act Effect Green (s)    | 47.0                                                                              | 36.3                                                                              |                                                                                   | 47.2                                                                              | 36.4                                                                              |                                                                                   | 44.9                                                                               | 41.1                                                                                |                                                                                     | 41.1                                                                                | 33.8                                                                                |                                                                                     |
| Actuated g/C Ratio      | 0.44                                                                              | 0.34                                                                              |                                                                                   | 0.44                                                                              | 0.34                                                                              |                                                                                   | 0.42                                                                               | 0.39                                                                                |                                                                                     | 0.39                                                                                | 0.32                                                                                |                                                                                     |
| v/c Ratio               | 0.38                                                                              | 0.97                                                                              |                                                                                   | 0.76                                                                              | 0.62                                                                              |                                                                                   | 0.32                                                                               | 1.14                                                                                |                                                                                     | 0.05                                                                                | 0.77                                                                                |                                                                                     |
| Control Delay           | 19.6                                                                              | 64.9                                                                              |                                                                                   | 44.2                                                                              | 35.0                                                                              |                                                                                   | 21.0                                                                               | 109.2                                                                               |                                                                                     | 17.6                                                                                | 42.2                                                                                |                                                                                     |
| Queue Delay             | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                                | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Delay             | 19.6                                                                              | 64.9                                                                              |                                                                                   | 44.2                                                                              | 35.0                                                                              |                                                                                   | 21.0                                                                               | 109.2                                                                               |                                                                                     | 17.6                                                                                | 42.2                                                                                |                                                                                     |
| LOS                     | B                                                                                 | E                                                                                 |                                                                                   | D                                                                                 | C                                                                                 |                                                                                   | C                                                                                  | F                                                                                   |                                                                                     | B                                                                                   | D                                                                                   |                                                                                     |
| Approach Delay          |                                                                                   | 56.4                                                                              |                                                                                   |                                                                                   | 37.5                                                                              |                                                                                   |                                                                                    | 100.4                                                                               |                                                                                     |                                                                                     | 41.7                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | E                                                                                 |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                    | F                                                                                   |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 54                                                                                | 416                                                                               |                                                                                   | 60                                                                                | 228                                                                               |                                                                                   | 35                                                                                 | ~595                                                                                |                                                                                     | 3                                                                                   | 271                                                                                 |                                                                                     |
| Queue Length 95th (ft)  | 94                                                                                | #665                                                                              |                                                                                   | #159                                                                              | 338                                                                               |                                                                                   | 63                                                                                 | #905                                                                                |                                                                                     | 12                                                                                  | 364                                                                                 |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 708                                                                               |                                                                                   |                                                                                   | 745                                                                               |                                                                                   |                                                                                    | 714                                                                                 |                                                                                     |                                                                                     | 572                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 225                                                                               |                                                                                   |                                                                                   | 225                                                                               |                                                                                   |                                                                                   | 280                                                                                |                                                                                     |                                                                                     | 225                                                                                 |                                                                                     |                                                                                     |
| Base Capacity (vph)     | 369                                                                               | 625                                                                               |                                                                                   | 199                                                                               | 628                                                                               |                                                                                   | 280                                                                                | 701                                                                                 |                                                                                     | 191                                                                                 | 602                                                                                 |                                                                                     |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       | 0.38                                                                              | 0.97                                                                              |                                                                                   | 0.76                                                                              | 0.62                                                                              |                                                                                   | 0.31                                                                               | 1.14                                                                                |                                                                                     | 0.05                                                                                | 0.74                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 106.2

Natural Cycle: 150

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.14

Intersection Signal Delay: 64.8

Intersection LOS: E

Intersection Capacity Utilization 100.5%

ICU Level of Service G

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

### Splits and Phases: 5: South Bay Road & Route 31

|                                                                                        |                                                                                        |                                                                                        |                                                                                         |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
|  Ø1 |  Ø2 |  Ø3 |  Ø4 |
| 12 s                                                                                   | 44 s                                                                                   | 12 s                                                                                   | 42 s                                                                                    |
|  Ø5 |  Ø6 |  Ø7 |  Ø8 |
| 12 s                                                                                   | 44 s                                                                                   | 12 s                                                                                   | 42 s                                                                                    |



Lanes, Volumes, Timings  
6: Cicero Center Road & Route 31

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (vph)       | 97                                                                                | 453                                                                               | 23                                                                                | 6                                                                                 | 401                                                                               | 58                                                                                | 19                                                                                | 41                                                                                  | 14                                                                                  | 44                                                                                  | 19                                                                                  | 54                                                                                  |
| Future Volume (vph)        | 97                                                                                | 453                                                                               | 23                                                                                | 6                                                                                 | 401                                                                               | 58                                                                                | 19                                                                                | 41                                                                                  | 14                                                                                  | 44                                                                                  | 19                                                                                  | 54                                                                                  |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Satd. Flow (prot)          | 0                                                                                 | 1857                                                                              | 0                                                                                 | 0                                                                                 | 1847                                                                              | 0                                                                                 | 0                                                                                 | 1810                                                                                | 0                                                                                   | 0                                                                                   | 1731                                                                                | 0                                                                                   |
| Flt Permitted              |                                                                                   | 0.843                                                                             |                                                                                   |                                                                                   | 0.993                                                                             |                                                                                   |                                                                                   | 0.909                                                                               |                                                                                     |                                                                                     | 0.833                                                                               |                                                                                     |
| Satd. Flow (perm)          | 0                                                                                 | 1578                                                                              | 0                                                                                 | 0                                                                                 | 1836                                                                              | 0                                                                                 | 0                                                                                 | 1667                                                                                | 0                                                                                   | 0                                                                                   | 1470                                                                                | 0                                                                                   |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 20                                                                                |                                                                                   |                                                                                   | 19                                                                                  |                                                                                     |                                                                                     | 66                                                                                  |                                                                                     |
| Link Speed (mph)           |                                                                                   | 55                                                                                |                                                                                   |                                                                                   | 55                                                                                |                                                                                   |                                                                                   | 55                                                                                  |                                                                                     |                                                                                     | 55                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 583                                                                               |                                                                                   |                                                                                   | 608                                                                               |                                                                                   |                                                                                   | 500                                                                                 |                                                                                     |                                                                                     | 505                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 7.2                                                                               |                                                                                   |                                                                                   | 7.5                                                                               |                                                                                   |                                                                                   | 6.2                                                                                 |                                                                                     |                                                                                     | 6.3                                                                                 |                                                                                     |
| Peak Hour Factor           | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.73                                                                              | 0.73                                                                                | 0.73                                                                                | 0.82                                                                                | 0.82                                                                                | 0.82                                                                                |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 0                                                                                 | 651                                                                               | 0                                                                                 | 0                                                                                 | 499                                                                               | 0                                                                                 | 0                                                                                 | 101                                                                                 | 0                                                                                   | 0                                                                                   | 143                                                                                 | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                  |                                                                                     | Perm                                                                                | NA                                                                                  |                                                                                     |
| Protected Phases           |                                                                                   | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                   |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |
| Permitted Phases           | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |                                                                                     |
| Detector Phase             | 2                                                                                 | 2                                                                                 |                                                                                   | 6                                                                                 | 6                                                                                 |                                                                                   | 8                                                                                 | 8                                                                                   |                                                                                     | 4                                                                                   | 4                                                                                   |                                                                                     |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 15.0                                                                              | 15.0                                                                              |                                                                                   | 15.0                                                                              | 15.0                                                                              |                                                                                   | 7.0                                                                               | 7.0                                                                                 |                                                                                     | 7.0                                                                                 | 7.0                                                                                 |                                                                                     |
| Minimum Split (s)          | 21.0                                                                              | 21.0                                                                              |                                                                                   | 21.0                                                                              | 21.0                                                                              |                                                                                   | 12.0                                                                              | 12.0                                                                                |                                                                                     | 12.0                                                                                | 12.0                                                                                |                                                                                     |
| Total Split (s)            | 30.0                                                                              | 30.0                                                                              |                                                                                   | 30.0                                                                              | 30.0                                                                              |                                                                                   | 20.0                                                                              | 20.0                                                                                |                                                                                     | 20.0                                                                                | 20.0                                                                                |                                                                                     |
| Total Split (%)            | 60.0%                                                                             | 60.0%                                                                             |                                                                                   | 60.0%                                                                             | 60.0%                                                                             |                                                                                   | 40.0%                                                                             | 40.0%                                                                               |                                                                                     | 40.0%                                                                               | 40.0%                                                                               |                                                                                     |
| Maximum Green (s)          | 24.0                                                                              | 24.0                                                                              |                                                                                   | 24.0                                                                              | 24.0                                                                              |                                                                                   | 15.0                                                                              | 15.0                                                                                |                                                                                     | 15.0                                                                                | 15.0                                                                                |                                                                                     |
| Yellow Time (s)            | 4.0                                                                               | 4.0                                                                               |                                                                                   | 4.0                                                                               | 4.0                                                                               |                                                                                   | 4.0                                                                               | 4.0                                                                                 |                                                                                     | 4.0                                                                                 | 4.0                                                                                 |                                                                                     |
| All-Red Time (s)           | 2.0                                                                               | 2.0                                                                               |                                                                                   | 2.0                                                                               | 2.0                                                                               |                                                                                   | 1.0                                                                               | 1.0                                                                                 |                                                                                     | 1.0                                                                                 | 1.0                                                                                 |                                                                                     |
| Lost Time Adjust (s)       |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                                 |                                                                                     |                                                                                     | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)        |                                                                                   | 6.0                                                                               |                                                                                   |                                                                                   | 6.0                                                                               |                                                                                   |                                                                                   | 5.0                                                                                 |                                                                                     |                                                                                     | 5.0                                                                                 |                                                                                     |
| Lead/Lag                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?         |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Vehicle Extension (s)      | 5.0                                                                               | 5.0                                                                               |                                                                                   | 5.0                                                                               | 5.0                                                                               |                                                                                   | 2.0                                                                               | 2.0                                                                                 |                                                                                     | 2.0                                                                                 | 2.0                                                                                 |                                                                                     |
| Recall Mode                | Max                                                                               | Max                                                                               |                                                                                   | Max                                                                               | Max                                                                               |                                                                                   | None                                                                              | None                                                                                |                                                                                     | None                                                                                | None                                                                                |                                                                                     |
| Act Effct Green (s)        |                                                                                   | 28.1                                                                              |                                                                                   |                                                                                   | 28.1                                                                              |                                                                                   |                                                                                   | 8.0                                                                                 |                                                                                     |                                                                                     | 8.0                                                                                 |                                                                                     |
| Actuated g/C Ratio         |                                                                                   | 0.64                                                                              |                                                                                   |                                                                                   | 0.64                                                                              |                                                                                   |                                                                                   | 0.18                                                                                |                                                                                     |                                                                                     | 0.18                                                                                |                                                                                     |
| v/c Ratio                  |                                                                                   | 0.64                                                                              |                                                                                   |                                                                                   | 0.42                                                                              |                                                                                   |                                                                                   | 0.31                                                                                |                                                                                     |                                                                                     | 0.44                                                                                |                                                                                     |
| Control Delay              |                                                                                   | 12.1                                                                              |                                                                                   |                                                                                   | 6.9                                                                               |                                                                                   |                                                                                   | 15.5                                                                                |                                                                                     |                                                                                     | 14.0                                                                                |                                                                                     |
| Queue Delay                |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                                 |                                                                                     |                                                                                     | 0.0                                                                                 |                                                                                     |
| Total Delay                |                                                                                   | 12.1                                                                              |                                                                                   |                                                                                   | 6.9                                                                               |                                                                                   |                                                                                   | 15.5                                                                                |                                                                                     |                                                                                     | 14.0                                                                                |                                                                                     |
| LOS                        |                                                                                   | B                                                                                 |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | B                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |



# Lanes, Volumes, Timings

## 6: Cicero Center Road & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Approach Delay          |                                                                                   | 12.1                                                                              |                                                                                   |                                                                                   | 6.9                                                                               |                                                                                   |                                                                                   | 15.5                                                                                |                                                                                     |                                                                                     | 14.0                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | B                                                                                 |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | B                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| Queue Length 50th (ft)  |                                                                                   | 91                                                                                |                                                                                   |                                                                                   | 54                                                                                |                                                                                   |                                                                                   | 17                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Queue Length 95th (ft)  |                                                                                   | #284                                                                              |                                                                                   |                                                                                   | 133                                                                               |                                                                                   |                                                                                   | 36                                                                                  |                                                                                     |                                                                                     | 45                                                                                  |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 503                                                                               |                                                                                   |                                                                                   | 528                                                                               |                                                                                   |                                                                                   | 420                                                                                 |                                                                                     |                                                                                     | 425                                                                                 |                                                                                     |
| Turn Bay Length (ft)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Base Capacity (vph)     |                                                                                   | 1018                                                                              |                                                                                   |                                                                                   | 1189                                                                              |                                                                                   |                                                                                   | 586                                                                                 |                                                                                     |                                                                                     | 549                                                                                 |                                                                                     |
| Starvation Cap Reductn  |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       |                                                                                   | 0.64                                                                              |                                                                                   |                                                                                   | 0.42                                                                              |                                                                                   |                                                                                   | 0.17                                                                                |                                                                                     |                                                                                     | 0.26                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Cycle Length: 50

Actuated Cycle Length: 43.6

Natural Cycle: 50

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 10.7

Intersection LOS: B

Intersection Capacity Utilization 80.3%

ICU Level of Service D

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

### Splits and Phases: 6: Cicero Center Road & Route 31

|                                                                                        |                                                                                        |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
|  Ø2 |  Ø4 |
| 30 s                                                                                   | 20 s                                                                                   |
|  Ø6 |  Ø8 |
| 30 s                                                                                   | 20 s                                                                                   |



# Lanes, Volumes, Timings

## 7: Route 31 & Lakeshore Road (East)

07/05/2022

|                            |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | WBT                                                                               | WBR                                                                               | SBL                                                                               | SBR                                                                               |
| Lane Configurations        |                                                                                   |  |  |                                                                                   |  |                                                                                   |
| Traffic Volume (vph)       | 47                                                                                | 488                                                                               | 427                                                                               | 83                                                                                | 66                                                                                | 22                                                                                |
| Future Volume (vph)        | 47                                                                                | 488                                                                               | 427                                                                               | 83                                                                                | 66                                                                                | 22                                                                                |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Satd. Flow (prot)          | 0                                                                                 | 1874                                                                              | 1840                                                                              | 0                                                                                 | 1752                                                                              | 0                                                                                 |
| Flt Permitted              |                                                                                   | 0.996                                                                             |                                                                                   |                                                                                   | 0.964                                                                             |                                                                                   |
| Satd. Flow (perm)          | 0                                                                                 | 1874                                                                              | 1840                                                                              | 0                                                                                 | 1752                                                                              | 0                                                                                 |
| Link Speed (mph)           |                                                                                   | 55                                                                                | 55                                                                                |                                                                                   | 35                                                                                |                                                                                   |
| Link Distance (ft)         |                                                                                   | 516                                                                               | 592                                                                               |                                                                                   | 420                                                                               |                                                                                   |
| Travel Time (s)            |                                                                                   | 6.4                                                                               | 7.3                                                                               |                                                                                   | 8.2                                                                               |                                                                                   |
| Peak Hour Factor           | 0.87                                                                              | 0.87                                                                              | 0.89                                                                              | 0.89                                                                              | 0.81                                                                              | 0.81                                                                              |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)      | 0                                                                                 | 615                                                                               | 573                                                                               | 0                                                                                 | 108                                                                               | 0                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment             | Left                                                                              | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Right                                                                             |
| Median Width(ft)           |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 12                                                                                |                                                                                   |
| Link Offset(ft)            |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 |                                                                                   |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                | 16                                                                                |                                                                                   | 16                                                                                |                                                                                   |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (mph)        | 15                                                                                |                                                                                   |                                                                                   | 9                                                                                 | 15                                                                                | 9                                                                                 |
| Sign Control               |                                                                                   | Free                                                                              | Free                                                                              |                                                                                   | Stop                                                                              |                                                                                   |

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 70.8%

ICU Level of Service C

Analysis Period (min) 15



HCM 6th TWSC  
7: Route 31 & Lakeshore Road (East)

07/05/2022

Intersection

Int Delay, s/veh 3.3

| Movement                 | EBL  | EBT                                                                               | WBT                                                                               | WBR  | SBL                                                                               | SBR  |
|--------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|------|
| Lane Configurations      |      |  |  |      |  |      |
| Traffic Vol, veh/h       | 47   | 488                                                                               | 427                                                                               | 83   | 66                                                                                | 22   |
| Future Vol, veh/h        | 47   | 488                                                                               | 427                                                                               | 83   | 66                                                                                | 22   |
| Conflicting Peds, #/hr   | 0    | 0                                                                                 | 0                                                                                 | 0    | 0                                                                                 | 0    |
| Sign Control             | Free | Free                                                                              | Free                                                                              | Free | Stop                                                                              | Stop |
| RT Channelized           | -    | None                                                                              | -                                                                                 | None | -                                                                                 | None |
| Storage Length           | -    | -                                                                                 | -                                                                                 | -    | 0                                                                                 | -    |
| Veh in Median Storage, # | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Grade, %                 | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Peak Hour Factor         | 87   | 87                                                                                | 89                                                                                | 89   | 81                                                                                | 81   |
| Heavy Vehicles, %        | 1    | 1                                                                                 | 1                                                                                 | 1    | 1                                                                                 | 1    |
| Mvmt Flow                | 54   | 561                                                                               | 480                                                                               | 93   | 81                                                                                | 27   |

| Major/Minor          | Major1 | Major2 | Minor2        |
|----------------------|--------|--------|---------------|
| Conflicting Flow All | 573    | 0      | 0 1196 527    |
| Stage 1              | -      | -      | - 527 -       |
| Stage 2              | -      | -      | - 669 -       |
| Critical Hdwy        | 4.11   | -      | - 6.41 6.21   |
| Critical Hdwy Stg 1  | -      | -      | - 5.41 -      |
| Critical Hdwy Stg 2  | -      | -      | - 5.41 -      |
| Follow-up Hdwy       | 2.209  | -      | - 3.509 3.309 |
| Pot Cap-1 Maneuver   | 1005   | -      | - 207 553     |
| Stage 1              | -      | -      | - 594 -       |
| Stage 2              | -      | -      | - 511 -       |
| Platoon blocked, %   | -      | -      | -             |
| Mov Cap-1 Maneuver   | 1005   | -      | - 191 553     |
| Mov Cap-2 Maneuver   | -      | -      | - 191 -       |
| Stage 1              | -      | -      | - 548 -       |
| Stage 2              | -      | -      | - 511 -       |

| Approach             | EB  | WB | SB   |
|----------------------|-----|----|------|
| HCM Control Delay, s | 0.8 | 0  | 34.4 |
| HCM LOS              |     |    | D    |

| Minor Lane/Major Mvmt | EBL   | EBT | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-----|-------|
| Capacity (veh/h)      | 1005  | -   | -   | -   | 228   |
| HCM Lane V/C Ratio    | 0.054 | -   | -   | -   | 0.476 |
| HCM Control Delay (s) | 8.8   | 0   | -   | -   | 34.4  |
| HCM Lane LOS          | A     | A   | -   | -   | D     |
| HCM 95th %tile Q(veh) | 0.2   | -   | -   | -   | 2.4   |



# Lanes, Volumes, Timings

## 8: Thompson Road & South Bay Road

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |  |  |                                                                                   |  |  |                                                                                   |                                                                                   |  |  |                                                                                     |  |  |
| Traffic Volume (vph)       | 316                                                                               | 442                                                                               | 2                                                                                 | 184                                                                               | 365                                                                               | 24                                                                                | 19                                                                                | 323                                                                                 | 322                                                                                 | 9                                                                                   | 150                                                                                 | 238                                                                                 |
| Future Volume (vph)        | 316                                                                               | 442                                                                               | 2                                                                                 | 184                                                                               | 365                                                                               | 24                                                                                | 19                                                                                | 323                                                                                 | 322                                                                                 | 9                                                                                   | 150                                                                                 | 238                                                                                 |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 300                                                                               |                                                                                   | 0                                                                                 | 250                                                                               |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                     | 210                                                                                 | 0                                                                                   |                                                                                     | 600                                                                                 |
| Storage Lanes              | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                     | 1                                                                                   | 0                                                                                   |                                                                                     | 1                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 1787                                                                              | 1879                                                                              | 0                                                                                 | 1787                                                                              | 1864                                                                              | 0                                                                                 | 0                                                                                 | 1857                                                                                | 1583                                                                                | 0                                                                                   | 1876                                                                                | 1599                                                                                |
| Flt Permitted              | 0.220                                                                             |                                                                                   |                                                                                   | 0.179                                                                             |                                                                                   |                                                                                   |                                                                                   | 0.976                                                                               |                                                                                     |                                                                                     | 0.969                                                                               |                                                                                     |
| Satd. Flow (perm)          | 414                                                                               | 1879                                                                              | 0                                                                                 | 337                                                                               | 1864                                                                              | 0                                                                                 | 0                                                                                 | 1818                                                                                | 1583                                                                                | 0                                                                                   | 1823                                                                                | 1599                                                                                |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 5                                                                                 |                                                                                   |                                                                                   |                                                                                     | 113                                                                                 |                                                                                     |                                                                                     | 154                                                                                 |
| Link Speed (mph)           |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 45                                                                                  |                                                                                     |                                                                                     | 45                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 1324                                                                              |                                                                                   |                                                                                   | 1155                                                                              |                                                                                   |                                                                                   | 1095                                                                                |                                                                                     |                                                                                     | 1033                                                                                |                                                                                     |
| Travel Time (s)            |                                                                                   | 20.1                                                                              |                                                                                   |                                                                                   | 17.5                                                                              |                                                                                   |                                                                                   | 16.6                                                                                |                                                                                     |                                                                                     | 15.7                                                                                |                                                                                     |
| Peak Hour Factor           | 0.84                                                                              | 0.84                                                                              | 0.84                                                                              | 0.80                                                                              | 0.80                                                                              | 0.80                                                                              | 0.94                                                                              | 0.94                                                                                | 0.94                                                                                | 0.84                                                                                | 0.84                                                                                | 0.84                                                                                |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 2%                                                                                | 2%                                                                                  | 2%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 376                                                                               | 528                                                                               | 0                                                                                 | 230                                                                               | 486                                                                               | 0                                                                                 | 0                                                                                 | 364                                                                                 | 343                                                                                 | 0                                                                                   | 190                                                                                 | 283                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                             | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                  | pm+ov                                                                               | Perm                                                                                | NA                                                                                  | pm+ov                                                                               |
| Protected Phases           | 7                                                                                 | 4                                                                                 |                                                                                   | 3                                                                                 | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                   | 3                                                                                   |                                                                                     | 6                                                                                   | 7                                                                                   |
| Permitted Phases           | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                 |                                                                                     | 2                                                                                   | 6                                                                                   |                                                                                     | 6                                                                                   |
| Detector Phase             | 7                                                                                 | 4                                                                                 |                                                                                   | 3                                                                                 | 8                                                                                 |                                                                                   | 2                                                                                 | 2                                                                                   | 3                                                                                   | 6                                                                                   | 6                                                                                   | 7                                                                                   |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 5.0                                                                               | 10.0                                                                              |                                                                                   | 5.0                                                                               | 5.0                                                                               |                                                                                   | 10.0                                                                              | 10.0                                                                                | 5.0                                                                                 | 10.0                                                                                | 10.0                                                                                | 5.0                                                                                 |
| Minimum Split (s)          | 12.0                                                                              | 17.0                                                                              |                                                                                   | 12.0                                                                              | 12.0                                                                              |                                                                                   | 16.5                                                                              | 16.5                                                                                | 12.0                                                                                | 16.5                                                                                | 16.5                                                                                | 12.0                                                                                |
| Total Split (s)            | 15.0                                                                              | 30.0                                                                              |                                                                                   | 15.0                                                                              | 30.0                                                                              |                                                                                   | 30.0                                                                              | 30.0                                                                                | 15.0                                                                                | 30.0                                                                                | 30.0                                                                                | 15.0                                                                                |
| Total Split (%)            | 20.0%                                                                             | 40.0%                                                                             |                                                                                   | 20.0%                                                                             | 40.0%                                                                             |                                                                                   | 40.0%                                                                             | 40.0%                                                                               | 20.0%                                                                               | 40.0%                                                                               | 40.0%                                                                               | 20.0%                                                                               |
| Maximum Green (s)          | 8.0                                                                               | 23.0                                                                              |                                                                                   | 8.0                                                                               | 23.0                                                                              |                                                                                   | 23.5                                                                              | 23.5                                                                                | 8.0                                                                                 | 23.5                                                                                | 23.5                                                                                | 8.0                                                                                 |
| Yellow Time (s)            | 4.0                                                                               | 4.0                                                                               |                                                                                   | 4.0                                                                               | 4.0                                                                               |                                                                                   | 3.5                                                                               | 3.5                                                                                 | 4.0                                                                                 | 3.5                                                                                 | 3.5                                                                                 | 4.0                                                                                 |
| All-Red Time (s)           | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |
| Lost Time Adjust (s)       | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                                 | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |
| Total Lost Time (s)        | 7.0                                                                               | 7.0                                                                               |                                                                                   | 7.0                                                                               | 7.0                                                                               |                                                                                   |                                                                                   | 6.5                                                                                 | 7.0                                                                                 |                                                                                     | 6.5                                                                                 | 7.0                                                                                 |
| Lead/Lag                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                              | Lag                                                                               |                                                                                   |                                                                                   |                                                                                     | Lead                                                                                |                                                                                     |                                                                                     | Lead                                                                                |
| Lead-Lag Optimize?         | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                               | Yes                                                                               |                                                                                   |                                                                                   |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Vehicle Extension (s)      | 3.0                                                                               | 2.0                                                                               |                                                                                   | 3.0                                                                               | 2.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |
| Recall Mode                | None                                                                              | Min                                                                               |                                                                                   | None                                                                              | Min                                                                               |                                                                                   | Max                                                                               | Max                                                                                 | None                                                                                | Max                                                                                 | Max                                                                                 | None                                                                                |
| Act Effct Green (s)        | 30.3                                                                              | 22.3                                                                              |                                                                                   | 30.3                                                                              | 22.3                                                                              |                                                                                   |                                                                                   | 23.5                                                                                | 38.0                                                                                |                                                                                     | 23.5                                                                                | 38.0                                                                                |
| Actuated g/C Ratio         | 0.41                                                                              | 0.30                                                                              |                                                                                   | 0.41                                                                              | 0.30                                                                              |                                                                                   |                                                                                   | 0.32                                                                                | 0.51                                                                                |                                                                                     | 0.32                                                                                | 0.51                                                                                |
| v/c Ratio                  | 1.19                                                                              | 0.94                                                                              |                                                                                   | 0.78                                                                              | 0.86                                                                              |                                                                                   |                                                                                   | 0.63                                                                                | 0.40                                                                                |                                                                                     | 0.33                                                                                | 0.32                                                                                |
| Control Delay              | 131.8                                                                             | 52.7                                                                              |                                                                                   | 34.8                                                                              | 42.0                                                                              |                                                                                   |                                                                                   | 27.9                                                                                | 8.9                                                                                 |                                                                                     | 21.6                                                                                | 5.9                                                                                 |



# Lanes, Volumes, Timings

## 8: Thompson Road & South Bay Road

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Queue Delay             | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                    | 0.0                                                                                 | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |
| Total Delay             | 131.8                                                                             | 52.7                                                                              |                                                                                   | 34.8                                                                              | 42.0                                                                              |                                                                                   |                                                                                    | 27.9                                                                                | 8.9                                                                                 |                                                                                     | 21.6                                                                                | 5.9                                                                                 |
| LOS                     | F                                                                                 | D                                                                                 |                                                                                   | C                                                                                 | D                                                                                 |                                                                                   |                                                                                    | C                                                                                   | A                                                                                   |                                                                                     | C                                                                                   | A                                                                                   |
| Approach Delay          |                                                                                   | 85.6                                                                              |                                                                                   |                                                                                   | 39.7                                                                              |                                                                                   |                                                                                    | 18.7                                                                                |                                                                                     |                                                                                     | 12.3                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | F                                                                                 |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                    | B                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | ~146                                                                              | 235                                                                               |                                                                                   | 57                                                                                | 208                                                                               |                                                                                   |                                                                                    | 144                                                                                 | 58                                                                                  |                                                                                     | 67                                                                                  | 30                                                                                  |
| Queue Length 95th (ft)  | #277                                                                              | #371                                                                              |                                                                                   | #117                                                                              | #285                                                                              |                                                                                   |                                                                                    | 232                                                                                 | 115                                                                                 |                                                                                     | 109                                                                                 | 62                                                                                  |
| Internal Link Dist (ft) |                                                                                   | 1244                                                                              |                                                                                   |                                                                                   | 1075                                                                              |                                                                                   |                                                                                    | 1015                                                                                |                                                                                     |                                                                                     | 953                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 300                                                                               |                                                                                   |                                                                                   | 250                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     | 210                                                                                 |                                                                                     |                                                                                     | 600                                                                                 |
| Base Capacity (vph)     | 316                                                                               | 582                                                                               |                                                                                   | 293                                                                               | 581                                                                               |                                                                                   |                                                                                    | 575                                                                                 | 864                                                                                 |                                                                                     | 577                                                                                 | 893                                                                                 |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                    | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                    | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                    | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |
| Reduced v/c Ratio       | 1.19                                                                              | 0.91                                                                              |                                                                                   | 0.78                                                                              | 0.84                                                                              |                                                                                   |                                                                                    | 0.63                                                                                | 0.40                                                                                |                                                                                     | 0.33                                                                                | 0.32                                                                                |

### Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 74.3

Natural Cycle: 75

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.19

Intersection Signal Delay: 44.6

Intersection LOS: D

Intersection Capacity Utilization 87.1%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

### Splits and Phases: 8: Thompson Road & South Bay Road

|                                                                                        |                                                                                        |                                                                                        |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
|  Ø2 |  Ø3 |  Ø4 |
| 30 s                                                                                   | 15 s                                                                                   | 30 s                                                                                   |
|  Ø6 |  Ø7 |  Ø8 |
| 30 s                                                                                   | 15 s                                                                                   | 30 s                                                                                   |



# Lanes, Volumes, Timings

## 9: Lakeshore Road & Mudd Mill Road

07/05/2022

|                            |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | WBT                                                                               | WBR                                                                               | SBL                                                                               | SBR                                                                               |
| Lane Configurations        |                                                                                   |  |  |                                                                                   |  |                                                                                   |
| Traffic Volume (vph)       | 57                                                                                | 353                                                                               | 245                                                                               | 147                                                                               | 130                                                                               | 38                                                                                |
| Future Volume (vph)        | 57                                                                                | 353                                                                               | 245                                                                               | 147                                                                               | 130                                                                               | 38                                                                                |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Satd. Flow (prot)          | 0                                                                                 | 1850                                                                              | 1734                                                                              | 0                                                                                 | 1707                                                                              | 0                                                                                 |
| Flt Permitted              |                                                                                   | 0.993                                                                             |                                                                                   |                                                                                   | 0.963                                                                             |                                                                                   |
| Satd. Flow (perm)          | 0                                                                                 | 1850                                                                              | 1734                                                                              | 0                                                                                 | 1707                                                                              | 0                                                                                 |
| Link Speed (mph)           |                                                                                   | 35                                                                                | 35                                                                                |                                                                                   | 35                                                                                |                                                                                   |
| Link Distance (ft)         |                                                                                   | 753                                                                               | 701                                                                               |                                                                                   | 545                                                                               |                                                                                   |
| Travel Time (s)            |                                                                                   | 14.7                                                                              | 13.7                                                                              |                                                                                   | 10.6                                                                              |                                                                                   |
| Confl. Peds. (#/hr)        | 1                                                                                 |                                                                                   |                                                                                   | 1                                                                                 |                                                                                   |                                                                                   |
| Peak Hour Factor           | 0.83                                                                              | 0.83                                                                              | 0.85                                                                              | 0.85                                                                              | 0.82                                                                              | 0.82                                                                              |
| Heavy Vehicles (%)         | 2%                                                                                | 2%                                                                                | 4%                                                                                | 4%                                                                                | 4%                                                                                | 4%                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)      | 0                                                                                 | 494                                                                               | 461                                                                               | 0                                                                                 | 205                                                                               | 0                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment             | Left                                                                              | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Right                                                                             |
| Median Width(ft)           |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 12                                                                                |                                                                                   |
| Link Offset(ft)            |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 |                                                                                   |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                | 16                                                                                |                                                                                   | 16                                                                                |                                                                                   |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (mph)        | 15                                                                                |                                                                                   |                                                                                   | 9                                                                                 | 15                                                                                | 9                                                                                 |
| Sign Control               |                                                                                   | Free                                                                              | Free                                                                              |                                                                                   | Stop                                                                              |                                                                                   |

### Intersection Summary

Area Type: Other  
Control Type: Unsignalized  
Intersection Capacity Utilization 63.2%  
Analysis Period (min) 15

ICU Level of Service B



HCM 6th TWSC  
9: Lakeshore Road & Mudd Mill Road

07/05/2022

Intersection

Int Delay, s/veh 7

| Movement                 | EBL  | EBT                                                                               | WBT                                                                               | WBR  | SBL                                                                               | SBR  |
|--------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|------|
| Lane Configurations      |      |  |  |      |  |      |
| Traffic Vol, veh/h       | 57   | 353                                                                               | 245                                                                               | 147  | 130                                                                               | 38   |
| Future Vol, veh/h        | 57   | 353                                                                               | 245                                                                               | 147  | 130                                                                               | 38   |
| Conflicting Peds, #/hr   | 1    | 0                                                                                 | 0                                                                                 | 1    | 0                                                                                 | 0    |
| Sign Control             | Free | Free                                                                              | Free                                                                              | Free | Stop                                                                              | Stop |
| RT Channelized           | -    | None                                                                              | -                                                                                 | None | -                                                                                 | None |
| Storage Length           | -    | -                                                                                 | -                                                                                 | -    | 0                                                                                 | -    |
| Veh in Median Storage, # | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Grade, %                 | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Peak Hour Factor         | 83   | 83                                                                                | 85                                                                                | 85   | 82                                                                                | 82   |
| Heavy Vehicles, %        | 2    | 2                                                                                 | 4                                                                                 | 4    | 4                                                                                 | 4    |
| Mvmt Flow                | 69   | 425                                                                               | 288                                                                               | 173  | 159                                                                               | 46   |

| Major/Minor          | Major1 | Major2 | Minor2 |
|----------------------|--------|--------|--------|
| Conflicting Flow All | 462    | 0      | 0      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |
| Critical Hdwy        | 4.12   | -      | -      |
| Critical Hdwy Stg 1  | -      | -      | -      |
| Critical Hdwy Stg 2  | -      | -      | -      |
| Follow-up Hdwy       | 2.218  | -      | -      |
| Pot Cap-1 Maneuver   | 1099   | -      | -      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |
| Platoon blocked, %   | -      | -      | -      |
| Mov Cap-1 Maneuver   | 1098   | -      | -      |
| Mov Cap-2 Maneuver   | -      | -      | -      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |

| Approach             | EB  | WB | SB   |
|----------------------|-----|----|------|
| HCM Control Delay, s | 1.2 | 0  | 36.9 |
| HCM LOS              |     |    | E    |

| Minor Lane/Major Mvmt | EBL   | EBT | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-----|-------|
| Capacity (veh/h)      | 1098  | -   | -   | -   | 309   |
| HCM Lane V/C Ratio    | 0.063 | -   | -   | -   | 0.663 |
| HCM Control Delay (s) | 8.5   | 0   | -   | -   | 36.9  |
| HCM Lane LOS          | A     | A   | -   | -   | E     |
| HCM 95th %tile Q(veh) | 0.2   | -   | -   | -   | 4.4   |



# Lanes, Volumes, Timings

## 10: South Bay Road & Lakeshore Road

07/05/2022

|                            |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                 | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations        |  |                                                                                   |                                                                                   |  |  |                                                                                   |
| Traffic Volume (vph)       | 301                                                                               | 11                                                                                | 253                                                                               | 239                                                                               | 15                                                                                | 352                                                                               |
| Future Volume (vph)        | 301                                                                               | 11                                                                                | 253                                                                               | 239                                                                               | 15                                                                                | 352                                                                               |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Satd. Flow (prot)          | 1835                                                                              | 0                                                                                 | 0                                                                                 | 1816                                                                              | 1633                                                                              | 0                                                                                 |
| Flt Permitted              |                                                                                   |                                                                                   |                                                                                   | 0.975                                                                             | 0.998                                                                             |                                                                                   |
| Satd. Flow (perm)          | 1835                                                                              | 0                                                                                 | 0                                                                                 | 1816                                                                              | 1633                                                                              | 0                                                                                 |
| Link Speed (mph)           | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                | 45                                                                                |                                                                                   |
| Link Distance (ft)         | 538                                                                               |                                                                                   |                                                                                   | 300                                                                               | 501                                                                               |                                                                                   |
| Travel Time (s)            | 10.5                                                                              |                                                                                   |                                                                                   | 5.8                                                                               | 7.6                                                                               |                                                                                   |
| Peak Hour Factor           | 0.81                                                                              | 0.81                                                                              | 0.77                                                                              | 0.77                                                                              | 0.83                                                                              | 0.83                                                                              |
| Heavy Vehicles (%)         | 3%                                                                                | 3%                                                                                | 2%                                                                                | 2%                                                                                | 1%                                                                                | 1%                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)      | 386                                                                               | 0                                                                                 | 0                                                                                 | 639                                                                               | 442                                                                               | 0                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment             | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Left                                                                              | Right                                                                             |
| Median Width(ft)           | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 | 12                                                                                |                                                                                   |
| Link Offset(ft)            | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |
| Crosswalk Width(ft)        | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                | 16                                                                                |                                                                                   |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (mph)        |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 15                                                                                | 9                                                                                 |
| Sign Control               | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              | Stop                                                                              |                                                                                   |

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 75.7%

ICU Level of Service D

Analysis Period (min) 15



HCM 6th TWSC  
10: South Bay Road & Lakeshore Road

07/05/2022

Intersection

| Int Delay, s/veh         | 11.8                                                                              |      |      |                                                                                   |                                                                                   |      |
|--------------------------|-----------------------------------------------------------------------------------|------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|
| Movement                 | EBT                                                                               | EBR  | WBL  | WBT                                                                               | NBL                                                                               | NBR  |
| Lane Configurations      |  |      |      |  |  |      |
| Traffic Vol, veh/h       | 301                                                                               | 11   | 253  | 239                                                                               | 15                                                                                | 352  |
| Future Vol, veh/h        | 301                                                                               | 11   | 253  | 239                                                                               | 15                                                                                | 352  |
| Conflicting Peds, #/hr   | 0                                                                                 | 0    | 0    | 0                                                                                 | 0                                                                                 | 0    |
| Sign Control             | Free                                                                              | Free | Free | Free                                                                              | Stop                                                                              | Stop |
| RT Channelized           | -                                                                                 | None | -    | None                                                                              | -                                                                                 | None |
| Storage Length           | -                                                                                 | -    | -    | -                                                                                 | 0                                                                                 | -    |
| Veh in Median Storage, # | 0                                                                                 | -    | -    | 0                                                                                 | 0                                                                                 | -    |
| Grade, %                 | 0                                                                                 | -    | -    | 0                                                                                 | 0                                                                                 | -    |
| Peak Hour Factor         | 81                                                                                | 81   | 77   | 77                                                                                | 83                                                                                | 83   |
| Heavy Vehicles, %        | 3                                                                                 | 3    | 2    | 2                                                                                 | 1                                                                                 | 1    |
| Mvmt Flow                | 372                                                                               | 14   | 329  | 310                                                                               | 18                                                                                | 424  |

| Major/Minor          | Major1 | Major2 | Minor1 |
|----------------------|--------|--------|--------|
| Conflicting Flow All | 0      | 0      | 386    |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |
| Critical Hdwy        | -      | -      | 4.12   |
| Critical Hdwy Stg 1  | -      | -      | -      |
| Critical Hdwy Stg 2  | -      | -      | -      |
| Follow-up Hdwy       | -      | -      | 2.218  |
| Pot Cap-1 Maneuver   | -      | -      | 1172   |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |
| Platoon blocked, %   | -      | -      | -      |
| Mov Cap-1 Maneuver   | -      | -      | 1172   |
| Mov Cap-2 Maneuver   | -      | -      | -      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |

| Approach             | EB | WB  | NB   |
|----------------------|----|-----|------|
| HCM Control Delay, s | 0  | 4.8 | 32.2 |
| HCM LOS              |    |     | D    |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL  | WBT |
|-----------------------|-------|-----|-----|------|-----|
| Capacity (veh/h)      | 555   | -   | -   | 1172 | -   |
| HCM Lane V/C Ratio    | 0.797 | -   | -   | 0.28 | -   |
| HCM Control Delay (s) | 32.2  | -   | -   | 9.3  | 0   |
| HCM Lane LOS          | D     | -   | -   | A    | A   |
| HCM 95th %tile Q(veh) | 7.6   | -   | -   | 1.2  | -   |



# Lanes, Volumes, Timings

## 11: Cicero Center Road/Van Antwerp Drive & Lakeshore Road

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (vph)       | 2                                                                                 | 294                                                                               | 58                                                                                | 7                                                                                 | 218                                                                               | 0                                                                                 | 77                                                                                | 1                                                                                   | 18                                                                                  | 1                                                                                   | 0                                                                                   | 1                                                                                   |
| Future Volume (vph)        | 2                                                                                 | 294                                                                               | 58                                                                                | 7                                                                                 | 218                                                                               | 0                                                                                 | 77                                                                                | 1                                                                                   | 18                                                                                  | 1                                                                                   | 0                                                                                   | 1                                                                                   |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Satd. Flow (prot)          | 0                                                                                 | 1822                                                                              | 0                                                                                 | 0                                                                                 | 1859                                                                              | 0                                                                                 | 0                                                                                 | 1745                                                                                | 0                                                                                   | 0                                                                                   | 1694                                                                                | 0                                                                                   |
| Flt Permitted              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.998                                                                             |                                                                                   |                                                                                   | 0.962                                                                               |                                                                                     |                                                                                     | 0.976                                                                               |                                                                                     |
| Satd. Flow (perm)          | 0                                                                                 | 1822                                                                              | 0                                                                                 | 0                                                                                 | 1859                                                                              | 0                                                                                 | 0                                                                                 | 1745                                                                                | 0                                                                                   | 0                                                                                   | 1694                                                                                | 0                                                                                   |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 55                                                                                  |                                                                                     |                                                                                     | 30                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 557                                                                               |                                                                                   |                                                                                   | 543                                                                               |                                                                                   |                                                                                   | 388                                                                                 |                                                                                     |                                                                                     | 295                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 10.9                                                                              |                                                                                   |                                                                                   | 10.6                                                                              |                                                                                   |                                                                                   | 4.8                                                                                 |                                                                                     |                                                                                     | 6.7                                                                                 |                                                                                     |
| Confl. Peds. (#/hr)        |                                                                                   |                                                                                   | 1                                                                                 | 1                                                                                 |                                                                                   |                                                                                   | 4                                                                                 |                                                                                     | 1                                                                                   | 1                                                                                   |                                                                                     | 4                                                                                   |
| Peak Hour Factor           | 0.80                                                                              | 0.80                                                                              | 0.80                                                                              | 0.65                                                                              | 0.65                                                                              | 0.65                                                                              | 0.80                                                                              | 0.80                                                                                | 0.80                                                                                | 0.50                                                                                | 0.50                                                                                | 0.50                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 0                                                                                 | 444                                                                               | 0                                                                                 | 0                                                                                 | 346                                                                               | 0                                                                                 | 0                                                                                 | 120                                                                                 | 0                                                                                   | 0                                                                                   | 4                                                                                   | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Sign Control               |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Stop                                                                                |                                                                                     |                                                                                     | Stop                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 35.1%

ICU Level of Service A

Analysis Period (min) 15



Intersection

Int Delay, s/veh 2.9

| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations      |      | ↔    |      |      | ↔    |      |      | ↔    |      |      | ↔    |      |
| Traffic Vol, veh/h       | 2    | 294  | 58   | 7    | 218  | 0    | 77   | 1    | 18   | 1    | 0    | 1    |
| Future Vol, veh/h        | 2    | 294  | 58   | 7    | 218  | 0    | 77   | 1    | 18   | 1    | 0    | 1    |
| Conflicting Peds, #/hr   | 0    | 0    | 1    | 1    | 0    | 0    | 4    | 0    | 1    | 1    | 0    | 4    |
| Sign Control             | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -    | None |
| Storage Length           | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 80   | 80   | 80   | 65   | 65   | 65   | 80   | 80   | 80   | 50   | 50   | 50   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 3    | 368  | 73   | 11   | 335  | 0    | 96   | 1    | 23   | 2    | 0    | 2    |

| Major/Minor          | Major1 |   | Major2 |       | Minor1 |   | Minor2 |       |       |       |       |       |
|----------------------|--------|---|--------|-------|--------|---|--------|-------|-------|-------|-------|-------|
| Conflicting Flow All | 335    | 0 | 0      | 442   | 0      | 0 | 774    | 769   | 407   | 781   | 805   | 339   |
| Stage 1              | -      | - | -      | -     | -      | - | 412    | 412   | -     | 357   | 357   | -     |
| Stage 2              | -      | - | -      | -     | -      | - | 362    | 357   | -     | 424   | 448   | -     |
| Critical Hdwy        | 4.12   | - | -      | 4.12  | -      | - | 7.12   | 6.52  | 6.22  | 7.12  | 6.52  | 6.22  |
| Critical Hdwy Stg 1  | -      | - | -      | -     | -      | - | 6.12   | 5.52  | -     | 6.12  | 5.52  | -     |
| Critical Hdwy Stg 2  | -      | - | -      | -     | -      | - | 6.12   | 5.52  | -     | 6.12  | 5.52  | -     |
| Follow-up Hdwy       | 2.218  | - | -      | 2.218 | -      | - | 3.518  | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver   | 1224   | - | -      | 1118  | -      | - | 316    | 332   | 644   | 312   | 316   | 703   |
| Stage 1              | -      | - | -      | -     | -      | - | 617    | 594   | -     | 661   | 628   | -     |
| Stage 2              | -      | - | -      | -     | -      | - | 657    | 628   | -     | 608   | 573   | -     |
| Platoon blocked, %   | -      | - | -      | -     | -      | - | -      | -     | -     | -     | -     | -     |
| Mov Cap-1 Maneuver   | 1224   | - | -      | 1117  | -      | - | 310    | 327   | 643   | 296   | 311   | 700   |
| Mov Cap-2 Maneuver   | -      | - | -      | -     | -      | - | 310    | 327   | -     | 296   | 311   | -     |
| Stage 1              | -      | - | -      | -     | -      | - | 615    | 592   | -     | 659   | 620   | -     |
| Stage 2              | -      | - | -      | -     | -      | - | 645    | 620   | -     | 583   | 571   | -     |

| Approach             | EB |  | WB  |  | NB |  | SB   |
|----------------------|----|--|-----|--|----|--|------|
| HCM Control Delay, s | 0  |  | 0.3 |  | 21 |  | 13.7 |
| HCM LOS              |    |  |     |  | C  |  | B    |

| Minor Lane/Major Mvmt | NBLn1 | EBL   | EBT | EBR | WBL  | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-----|-----|------|-----|-----|-------|
| Capacity (veh/h)      | 344   | 1224  | -   | -   | 1117 | -   | -   | 416   |
| HCM Lane V/C Ratio    | 0.349 | 0.002 | -   | -   | 0.01 | -   | -   | 0.01  |
| HCM Control Delay (s) | 21    | 7.9   | 0   | -   | 8.3  | 0   | -   | 13.7  |
| HCM Lane LOS          | C     | A     | A   | -   | A    | A   | -   | B     |
| HCM 95th %tile Q(veh) | 1.5   | 0     | -   | -   | 0    | -   | -   | 0     |



# Lanes, Volumes, Timings

## 12: Lakeshore Road & West Site Access

07/05/2022

|                            |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | WBT                                                                               | WBR                                                                               | SBL                                                                               | SBR                                                                               |
| Lane Configurations        |                                                                                   |  |  |                                                                                   |  |                                                                                   |
| Traffic Volume (vph)       | 15                                                                                | 638                                                                               | 480                                                                               | 5                                                                                 | 4                                                                                 | 12                                                                                |
| Future Volume (vph)        | 15                                                                                | 638                                                                               | 480                                                                               | 5                                                                                 | 4                                                                                 | 12                                                                                |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Satd. Flow (prot)          | 0                                                                                 | 1844                                                                              | 1861                                                                              | 0                                                                                 | 1667                                                                              | 0                                                                                 |
| Flt Permitted              |                                                                                   | 0.999                                                                             |                                                                                   |                                                                                   | 0.988                                                                             |                                                                                   |
| Satd. Flow (perm)          | 0                                                                                 | 1844                                                                              | 1861                                                                              | 0                                                                                 | 1667                                                                              | 0                                                                                 |
| Link Speed (mph)           |                                                                                   | 35                                                                                | 35                                                                                |                                                                                   | 30                                                                                |                                                                                   |
| Link Distance (ft)         |                                                                                   | 300                                                                               | 359                                                                               |                                                                                   | 354                                                                               |                                                                                   |
| Travel Time (s)            |                                                                                   | 5.8                                                                               | 7.0                                                                               |                                                                                   | 8.0                                                                               |                                                                                   |
| Peak Hour Factor           | 0.81                                                                              | 0.81                                                                              | 0.77                                                                              | 0.77                                                                              | 0.90                                                                              | 0.90                                                                              |
| Heavy Vehicles (%)         | 1%                                                                                | 3%                                                                                | 2%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)      | 0                                                                                 | 807                                                                               | 629                                                                               | 0                                                                                 | 17                                                                                | 0                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment             | Left                                                                              | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Right                                                                             |
| Median Width(ft)           |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 12                                                                                |                                                                                   |
| Link Offset(ft)            |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 |                                                                                   |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                | 16                                                                                |                                                                                   | 16                                                                                |                                                                                   |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (mph)        | 15                                                                                |                                                                                   |                                                                                   | 9                                                                                 | 15                                                                                | 9                                                                                 |
| Sign Control               |                                                                                   | Free                                                                              | Free                                                                              |                                                                                   | Stop                                                                              |                                                                                   |

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 55.6%

ICU Level of Service B

Analysis Period (min) 15



HCM 6th TWSC  
12: Lakeshore Road & West Site Access

07/05/2022

Intersection

Int Delay, s/veh 0.3

| Movement                 | EBL  | EBT                                                                               | WBT                                                                               | WBR  | SBL                                                                               | SBR  |
|--------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|------|
| Lane Configurations      |      |  |  |      |  |      |
| Traffic Vol, veh/h       | 15   | 638                                                                               | 480                                                                               | 5    | 4                                                                                 | 12   |
| Future Vol, veh/h        | 15   | 638                                                                               | 480                                                                               | 5    | 4                                                                                 | 12   |
| Conflicting Peds, #/hr   | 0    | 0                                                                                 | 0                                                                                 | 0    | 0                                                                                 | 0    |
| Sign Control             | Free | Free                                                                              | Free                                                                              | Free | Stop                                                                              | Stop |
| RT Channelized           | -    | None                                                                              | -                                                                                 | None | -                                                                                 | None |
| Storage Length           | -    | -                                                                                 | -                                                                                 | -    | 0                                                                                 | -    |
| Veh in Median Storage, # | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Grade, %                 | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Peak Hour Factor         | 81   | 81                                                                                | 77                                                                                | 77   | 90                                                                                | 90   |
| Heavy Vehicles, %        | 1    | 3                                                                                 | 2                                                                                 | 1    | 1                                                                                 | 1    |
| Mvmt Flow                | 19   | 788                                                                               | 623                                                                               | 6    | 4                                                                                 | 13   |

| Major/Minor          | Major1 | Major2 | Minor2        |
|----------------------|--------|--------|---------------|
| Conflicting Flow All | 629    | 0      | 0 1452 626    |
| Stage 1              | -      | -      | - 626 -       |
| Stage 2              | -      | -      | - 826 -       |
| Critical Hdwy        | 4.11   | -      | - 6.41 6.21   |
| Critical Hdwy Stg 1  | -      | -      | - 5.41 -      |
| Critical Hdwy Stg 2  | -      | -      | - 5.41 -      |
| Follow-up Hdwy       | 2.209  | -      | - 3.509 3.309 |
| Pot Cap-1 Maneuver   | 958    | -      | - 145 486     |
| Stage 1              | -      | -      | - 535 -       |
| Stage 2              | -      | -      | - 432 -       |
| Platoon blocked, %   | -      | -      | -             |
| Mov Cap-1 Maneuver   | 958    | -      | - 140 486     |
| Mov Cap-2 Maneuver   | -      | -      | - 140 -       |
| Stage 1              | -      | -      | - 516 -       |
| Stage 2              | -      | -      | - 432 -       |

| Approach             | EB  | WB | SB   |
|----------------------|-----|----|------|
| HCM Control Delay, s | 0.2 | 0  | 17.8 |
| HCM LOS              |     |    | C    |

| Minor Lane/Major Mvmt | EBL   | EBT | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-----|-------|
| Capacity (veh/h)      | 958   | -   | -   | -   | 300   |
| HCM Lane V/C Ratio    | 0.019 | -   | -   | -   | 0.059 |
| HCM Control Delay (s) | 8.8   | 0   | -   | -   | 17.8  |
| HCM Lane LOS          | A     | A   | -   | -   | C     |
| HCM 95th %tile Q(veh) | 0.1   | -   | -   | -   | 0.2   |



# Lanes, Volumes, Timings

## 13: Middle Site Access & Lakeshore Road

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (vph)       | 59                                                                                | 559                                                                               | 24                                                                                | 2                                                                                 | 423                                                                               | 12                                                                                | 15                                                                                | 0                                                                                   | 2                                                                                   | 11                                                                                  | 0                                                                                   | 47                                                                                  |
| Future Volume (vph)        | 59                                                                                | 559                                                                               | 24                                                                                | 2                                                                                 | 423                                                                               | 12                                                                                | 15                                                                                | 0                                                                                   | 2                                                                                   | 11                                                                                  | 0                                                                                   | 47                                                                                  |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Satd. Flow (prot)          | 0                                                                                 | 1831                                                                              | 0                                                                                 | 0                                                                                 | 1856                                                                              | 0                                                                                 | 0                                                                                 | 1775                                                                                | 0                                                                                   | 0                                                                                   | 1659                                                                                | 0                                                                                   |
| Flt Permitted              |                                                                                   | 0.995                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.957                                                                               |                                                                                     |                                                                                     | 0.991                                                                               |                                                                                     |
| Satd. Flow (perm)          | 0                                                                                 | 1831                                                                              | 0                                                                                 | 0                                                                                 | 1856                                                                              | 0                                                                                 | 0                                                                                 | 1775                                                                                | 0                                                                                   | 0                                                                                   | 1659                                                                                | 0                                                                                   |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 30                                                                                  |                                                                                     |                                                                                     | 30                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 359                                                                               |                                                                                   |                                                                                   | 475                                                                               |                                                                                   |                                                                                   | 333                                                                                 |                                                                                     |                                                                                     | 341                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 7.0                                                                               |                                                                                   |                                                                                   | 9.3                                                                               |                                                                                   |                                                                                   | 7.6                                                                                 |                                                                                     |                                                                                     | 7.8                                                                                 |                                                                                     |
| Peak Hour Factor           | 0.81                                                                              | 0.81                                                                              | 0.81                                                                              | 0.77                                                                              | 0.77                                                                              | 0.77                                                                              | 0.90                                                                              | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                |
| Heavy Vehicles (%)         | 1%                                                                                | 3%                                                                                | 1%                                                                                | 1%                                                                                | 2%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 0                                                                                 | 793                                                                               | 0                                                                                 | 0                                                                                 | 568                                                                               | 0                                                                                 | 0                                                                                 | 19                                                                                  | 0                                                                                   | 0                                                                                   | 64                                                                                  | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Sign Control               |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Stop                                                                                |                                                                                     |                                                                                     | Stop                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 70.6%

ICU Level of Service C

Analysis Period (min) 15



HCM 6th TWSC  
13: Middle Site Access & Lakeshore Road

07/05/2022

Intersection

|                          |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 2    |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      | ↔    |      |      | ↔    |      |      | ↔    |      |      | ↔    |      |
| Traffic Vol, veh/h       | 59   | 559  | 24   | 2    | 423  | 12   | 15   | 0    | 2    | 11   | 0    | 47   |
| Future Vol, veh/h        | 59   | 559  | 24   | 2    | 423  | 12   | 15   | 0    | 2    | 11   | 0    | 47   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -    | None |
| Storage Length           | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 81   | 81   | 81   | 77   | 77   | 77   | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 1    | 3    | 1    | 1    | 2    | 1    | 1    | 1    | 1    | 1    | 1    | 1    |
| Mvmt Flow                | 73   | 690  | 30   | 3    | 549  | 16   | 17   | 0    | 2    | 12   | 0    | 52   |

|                      |        |   |   |        |   |   |        |       |       |        |       |       |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |       |       | Minor2 |       |       |
| Conflicting Flow All | 565    | 0 | 0 | 720    | 0 | 0 | 1440   | 1422  | 705   | 1415   | 1429  | 557   |
| Stage 1              | -      | - | - | -      | - | - | 851    | 851   | -     | 563    | 563   | -     |
| Stage 2              | -      | - | - | -      | - | - | 589    | 571   | -     | 852    | 866   | -     |
| Critical Hdwy        | 4.11   | - | - | 4.11   | - | - | 7.11   | 6.51  | 6.21  | 7.11   | 6.51  | 6.21  |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | 6.11   | 5.51  | -     | 6.11   | 5.51  | -     |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | 6.11   | 5.51  | -     | 6.11   | 5.51  | -     |
| Follow-up Hdwy       | 2.209  | - | - | 2.209  | - | - | 3.509  | 4.009 | 3.309 | 3.509  | 4.009 | 3.309 |
| Pot Cap-1 Maneuver   | 1012   | - | - | 886    | - | - | 111    | 137   | 438   | 116    | 135   | 532   |
| Stage 1              | -      | - | - | -      | - | - | 356    | 378   | -     | 513    | 511   | -     |
| Stage 2              | -      | - | - | -      | - | - | 496    | 506   | -     | 356    | 372   | -     |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | -     | -     | -      | -     | -     |
| Mov Cap-1 Maneuver   | 1012   | - | - | 886    | - | - | 90     | 120   | 438   | 104    | 118   | 532   |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | 90     | 120   | -     | 104    | 118   | -     |
| Stage 1              | -      | - | - | -      | - | - | 313    | 332   | -     | 451    | 508   | -     |
| Stage 2              | -      | - | - | -      | - | - | 445    | 503   | -     | 311    | 327   | -     |

|                      |     |    |      |      |
|----------------------|-----|----|------|------|
| Approach             | EB  | WB | NB   | SB   |
| HCM Control Delay, s | 0.8 | 0  | 49.7 | 20.3 |
| HCM LOS              |     |    | E    | C    |

|                       |       |       |     |     |       |     |     |       |
|-----------------------|-------|-------|-----|-----|-------|-----|-----|-------|
| Minor Lane/Major Mvmt | NBLn1 | EBL   | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
| Capacity (veh/h)      | 99    | 1012  | -   | -   | 886   | -   | -   | 299   |
| HCM Lane V/C Ratio    | 0.191 | 0.072 | -   | -   | 0.003 | -   | -   | 0.216 |
| HCM Control Delay (s) | 49.7  | 8.8   | 0   | -   | 9.1   | 0   | -   | 20.3  |
| HCM Lane LOS          | E     | A     | A   | -   | A     | A   | -   | C     |
| HCM 95th %tile Q(veh) | 0.7   | 0.2   | -   | -   | 0     | -   | -   | 0.8   |



# Lanes, Volumes, Timings

## 14: East Site Access & Lakeshore Road

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (vph)       | 161                                                                               | 318                                                                               | 93                                                                                | 12                                                                                | 252                                                                               | 32                                                                                | 57                                                                                | 0                                                                                   | 7                                                                                   | 29                                                                                  | 0                                                                                   | 128                                                                                 |
| Future Volume (vph)        | 161                                                                               | 318                                                                               | 93                                                                                | 12                                                                                | 252                                                                               | 32                                                                                | 57                                                                                | 0                                                                                   | 7                                                                                   | 29                                                                                  | 0                                                                                   | 128                                                                                 |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Satd. Flow (prot)          | 0                                                                                 | 1794                                                                              | 0                                                                                 | 0                                                                                 | 1834                                                                              | 0                                                                                 | 0                                                                                 | 1775                                                                                | 0                                                                                   | 0                                                                                   | 1659                                                                                | 0                                                                                   |
| Flt Permitted              |                                                                                   | 0.986                                                                             |                                                                                   |                                                                                   | 0.998                                                                             |                                                                                   |                                                                                   | 0.958                                                                               |                                                                                     |                                                                                     | 0.991                                                                               |                                                                                     |
| Satd. Flow (perm)          | 0                                                                                 | 1794                                                                              | 0                                                                                 | 0                                                                                 | 1834                                                                              | 0                                                                                 | 0                                                                                 | 1775                                                                                | 0                                                                                   | 0                                                                                   | 1659                                                                                | 0                                                                                   |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 30                                                                                  |                                                                                     |                                                                                     | 30                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 475                                                                               |                                                                                   |                                                                                   | 621                                                                               |                                                                                   |                                                                                   | 334                                                                                 |                                                                                     |                                                                                     | 326                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 9.3                                                                               |                                                                                   |                                                                                   | 12.1                                                                              |                                                                                   |                                                                                   | 7.6                                                                                 |                                                                                     |                                                                                     | 7.4                                                                                 |                                                                                     |
| Peak Hour Factor           | 0.81                                                                              | 0.81                                                                              | 0.81                                                                              | 0.77                                                                              | 0.77                                                                              | 0.77                                                                              | 0.90                                                                              | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                |
| Heavy Vehicles (%)         | 1%                                                                                | 3%                                                                                | 1%                                                                                | 1%                                                                                | 2%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 0                                                                                 | 707                                                                               | 0                                                                                 | 0                                                                                 | 385                                                                               | 0                                                                                 | 0                                                                                 | 71                                                                                  | 0                                                                                   | 0                                                                                   | 174                                                                                 | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Sign Control               |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Stop                                                                                |                                                                                     |                                                                                     | Stop                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 70.1%

ICU Level of Service C

Analysis Period (min) 15



HCM 6th TWSC  
14: East Site Access & Lakeshore Road

07/05/2022

Intersection

| Int Delay, s/veh         | 10   |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      | ↔    |      |      | ↔    |      |      | ↔    |      |      | ↔    |      |
| Traffic Vol, veh/h       | 161  | 318  | 93   | 12   | 252  | 32   | 57   | 0    | 7    | 29   | 0    | 128  |
| Future Vol, veh/h        | 161  | 318  | 93   | 12   | 252  | 32   | 57   | 0    | 7    | 29   | 0    | 128  |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -    | None |
| Storage Length           | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 81   | 81   | 81   | 77   | 77   | 77   | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 1    | 3    | 1    | 1    | 2    | 1    | 1    | 1    | 1    | 1    | 1    | 1    |
| Mvmt Flow                | 199  | 393  | 115  | 16   | 327  | 42   | 63   | 0    | 8    | 32   | 0    | 142  |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |       |       | Minor2 |       |       |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Conflicting Flow All | 369    | 0 | 0 | 508    | 0 | 0 | 1300   | 1250  | 451   | 1233   | 1286  | 348   |
| Stage 1              | -      | - | - | -      | - | - | 849    | 849   | -     | 380    | 380   | -     |
| Stage 2              | -      | - | - | -      | - | - | 451    | 401   | -     | 853    | 906   | -     |
| Critical Hdwy        | 4.11   | - | - | 4.11   | - | - | 7.11   | 6.51  | 6.21  | 7.11   | 6.51  | 6.21  |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | 6.11   | 5.51  | -     | 6.11   | 5.51  | -     |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | 6.11   | 5.51  | -     | 6.11   | 5.51  | -     |
| Follow-up Hdwy       | 2.209  | - | - | 2.209  | - | - | 3.509  | 4.009 | 3.309 | 3.509  | 4.009 | 3.309 |
| Pot Cap-1 Maneuver   | 1195   | - | - | 1062   | - | - | 139    | 174   | 610   | 154    | 165   | 697   |
| Stage 1              | -      | - | - | -      | - | - | 357    | 379   | -     | 644    | 616   | -     |
| Stage 2              | -      | - | - | -      | - | - | 590    | 603   | -     | 355    | 356   | -     |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | -     | -     | -      | -     | -     |
| Mov Cap-1 Maneuver   | 1195   | - | - | 1062   | - | - | 89     | 130   | 610   | 123    | 124   | 697   |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | 89     | 130   | -     | 123    | 124   | -     |
| Stage 1              | -      | - | - | -      | - | - | 273    | 290   | -     | 492    | 604   | -     |
| Stage 2              | -      | - | - | -      | - | - | 461    | 592   | -     | 268    | 272   | -     |

| Approach             | EB  | WB  | NB    | SB   |
|----------------------|-----|-----|-------|------|
| HCM Control Delay, s | 2.4 | 0.3 | 105.7 | 22.8 |
| HCM LOS              |     |     | F     | C    |

| Minor Lane/Major Mvmt | NBLn1 | EBL   | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 98    | 1195  | -   | -   | 1062  | -   | -   | 374   |
| HCM Lane V/C Ratio    | 0.726 | 0.166 | -   | -   | 0.015 | -   | -   | 0.466 |
| HCM Control Delay (s) | 105.7 | 8.6   | 0   | -   | 8.4   | 0   | -   | 22.8  |
| HCM Lane LOS          | F     | A     | A   | -   | A     | A   | -   | C     |
| HCM 95th %tile Q(veh) | 3.8   | 0.6   | -   | -   | 0     | -   | -   | 2.4   |



# Lanes, Volumes, Timings

## 1: Route 11 & Route 31

07/05/2022

|                            |  |  |  |  |  |  |   |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |  |  |                                                                                   |  |  |                                                                                   |  |  |  |  |  |                                                                                     |
| Traffic Volume (vph)       | 71                                                                                | 569                                                                               | 127                                                                               | 560                                                                               | 575                                                                               | 141                                                                               | 133                                                                                | 319                                                                                 | 653                                                                                 | 177                                                                                 | 281                                                                                 | 74                                                                                  |
| Future Volume (vph)        | 71                                                                                | 569                                                                               | 127                                                                               | 560                                                                               | 575                                                                               | 141                                                                               | 133                                                                                | 319                                                                                 | 653                                                                                 | 177                                                                                 | 281                                                                                 | 74                                                                                  |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                               | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 200                                                                               |                                                                                   | 310                                                                               | 495                                                                               |                                                                                   | 0                                                                                 | 175                                                                                |                                                                                     | 0                                                                                   | 350                                                                                 |                                                                                     | 0                                                                                   |
| Storage Lanes              | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                  |                                                                                     | 1                                                                                   | 1                                                                                   |                                                                                     | 0                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                 |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 1787                                                                              | 3478                                                                              | 0                                                                                 | 1787                                                                              | 3467                                                                              | 0                                                                                 | 1787                                                                               | 1881                                                                                | 1599                                                                                | 1787                                                                                | 3463                                                                                | 0                                                                                   |
| Flt Permitted              | 0.354                                                                             |                                                                                   |                                                                                   | 0.104                                                                             |                                                                                   |                                                                                   | 0.395                                                                              |                                                                                     |                                                                                     | 0.188                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)          | 666                                                                               | 3478                                                                              | 0                                                                                 | 196                                                                               | 3467                                                                              | 0                                                                                 | 743                                                                                | 1881                                                                                | 1599                                                                                | 354                                                                                 | 3463                                                                                | 0                                                                                   |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                    |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   | 18                                                                                |                                                                                   |                                                                                   | 20                                                                                |                                                                                   |                                                                                    |                                                                                     | 76                                                                                  |                                                                                     | 22                                                                                  |                                                                                     |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                    | 35                                                                                  |                                                                                     |                                                                                     | 35                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 385                                                                               |                                                                                   |                                                                                   | 703                                                                               |                                                                                   |                                                                                    | 612                                                                                 |                                                                                     |                                                                                     | 561                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 7.5                                                                               |                                                                                   |                                                                                   | 13.7                                                                              |                                                                                   |                                                                                    | 11.9                                                                                |                                                                                     |                                                                                     | 10.9                                                                                |                                                                                     |
| Peak Hour Factor           | 0.86                                                                              | 0.86                                                                              | 0.86                                                                              | 0.91                                                                              | 0.91                                                                              | 0.91                                                                              | 0.95                                                                               | 0.95                                                                                | 0.95                                                                                | 0.88                                                                                | 0.88                                                                                | 0.88                                                                                |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                 | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 83                                                                                | 810                                                                               | 0                                                                                 | 615                                                                               | 787                                                                               | 0                                                                                 | 140                                                                                | 336                                                                                 | 687                                                                                 | 201                                                                                 | 403                                                                                 | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                 | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                               | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                    | 12                                                                                  |                                                                                     |                                                                                     | 12                                                                                  |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                    | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                    | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                 |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                              | NA                                                                                  | pm+ov                                                                               | pm+pt                                                                               | NA                                                                                  |                                                                                     |
| Protected Phases           | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 3                                                                                  | 8                                                                                   | 1                                                                                   | 7                                                                                   | 4                                                                                   |                                                                                     |
| Permitted Phases           | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                  |                                                                                     | 8                                                                                   | 4                                                                                   |                                                                                     |                                                                                     |
| Detector Phase             | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 3                                                                                  | 8                                                                                   | 1                                                                                   | 7                                                                                   | 4                                                                                   |                                                                                     |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 4.0                                                                               | 12.0                                                                              |                                                                                   | 8.0                                                                               | 12.0                                                                              |                                                                                   | 4.0                                                                                | 8.0                                                                                 | 8.0                                                                                 | 4.0                                                                                 | 8.0                                                                                 |                                                                                     |
| Minimum Split (s)          | 9.5                                                                               | 18.0                                                                              |                                                                                   | 13.5                                                                              | 18.0                                                                              |                                                                                   | 10.0                                                                               | 14.0                                                                                | 13.5                                                                                | 9.5                                                                                 | 14.0                                                                                |                                                                                     |
| Total Split (s)            | 40.0                                                                              | 40.0                                                                              |                                                                                   | 40.0                                                                              | 40.0                                                                              |                                                                                   | 20.0                                                                               | 40.0                                                                                | 40.0                                                                                | 20.0                                                                                | 40.0                                                                                |                                                                                     |
| Total Split (%)            | 28.6%                                                                             | 28.6%                                                                             |                                                                                   | 28.6%                                                                             | 28.6%                                                                             |                                                                                   | 14.3%                                                                              | 28.6%                                                                               | 28.6%                                                                               | 14.3%                                                                               | 28.6%                                                                               |                                                                                     |
| Maximum Green (s)          | 34.5                                                                              | 34.0                                                                              |                                                                                   | 34.5                                                                              | 34.0                                                                              |                                                                                   | 14.0                                                                               | 34.0                                                                                | 34.5                                                                                | 14.5                                                                                | 34.0                                                                                |                                                                                     |
| Yellow Time (s)            | 3.5                                                                               | 3.5                                                                               |                                                                                   | 3.5                                                                               | 3.5                                                                               |                                                                                   | 3.5                                                                                | 3.5                                                                                 | 3.5                                                                                 | 3.0                                                                                 | 3.5                                                                                 |                                                                                     |
| All-Red Time (s)           | 2.0                                                                               | 2.5                                                                               |                                                                                   | 2.0                                                                               | 2.5                                                                               |                                                                                   | 2.5                                                                                | 2.5                                                                                 | 2.0                                                                                 | 2.5                                                                                 | 2.5                                                                                 |                                                                                     |
| Lost Time Adjust (s)       | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                                | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)        | 5.5                                                                               | 6.0                                                                               |                                                                                   | 5.5                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                                | 6.0                                                                                 | 5.5                                                                                 | 5.5                                                                                 | 6.0                                                                                 |                                                                                     |
| Lead/Lag                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                               | Lag                                                                                 | Lead                                                                                | Lead                                                                                | Lag                                                                                 |                                                                                     |
| Lead-Lag Optimize?         | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                                | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 |                                                                                     |
| Vehicle Extension (s)      | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                                | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |
| Recall Mode                | None                                                                              | Min                                                                               |                                                                                   | None                                                                              | Min                                                                               |                                                                                   | None                                                                               | None                                                                                | None                                                                                | None                                                                                | None                                                                                |                                                                                     |
| Act Effct Green (s)        | 42.3                                                                              | 33.0                                                                              |                                                                                   | 73.6                                                                              | 58.7                                                                              |                                                                                   | 39.9                                                                               | 27.8                                                                                | 68.5                                                                                | 43.5                                                                                | 29.1                                                                                |                                                                                     |
| Actuated g/C Ratio         | 0.32                                                                              | 0.25                                                                              |                                                                                   | 0.56                                                                              | 0.44                                                                              |                                                                                   | 0.30                                                                               | 0.21                                                                                | 0.52                                                                                | 0.33                                                                                | 0.22                                                                                |                                                                                     |
| v/c Ratio                  | 0.29                                                                              | 0.92                                                                              |                                                                                   | 1.17                                                                              | 0.51                                                                              |                                                                                   | 0.44                                                                               | 0.85                                                                                | 0.80                                                                                | 0.76                                                                                | 0.52                                                                                |                                                                                     |
| Control Delay              | 21.5                                                                              | 64.4                                                                              |                                                                                   | 131.9                                                                             | 28.3                                                                              |                                                                                   | 34.3                                                                               | 70.8                                                                                | 31.4                                                                                | 49.5                                                                                | 45.5                                                                                |                                                                                     |



# Lanes, Volumes, Timings

## 1: Route 11 & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Queue Delay             | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Delay             | 21.5                                                                              | 64.4                                                                              |                                                                                   | 131.9                                                                             | 28.3                                                                              |                                                                                   | 34.3                                                                              | 70.8                                                                                | 31.4                                                                                | 49.5                                                                                | 45.5                                                                                |                                                                                     |
| LOS                     | C                                                                                 | E                                                                                 |                                                                                   | F                                                                                 | C                                                                                 |                                                                                   | C                                                                                 | E                                                                                   | C                                                                                   | D                                                                                   | D                                                                                   |                                                                                     |
| Approach Delay          |                                                                                   | 60.4                                                                              |                                                                                   |                                                                                   | 73.7                                                                              |                                                                                   |                                                                                   | 43.2                                                                                |                                                                                     |                                                                                     | 46.9                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | E                                                                                 |                                                                                   |                                                                                   | E                                                                                 |                                                                                   |                                                                                   | D                                                                                   |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 33                                                                                | 357                                                                               |                                                                                   | ~599                                                                              | 250                                                                               |                                                                                   | 84                                                                                | 284                                                                                 | 437                                                                                 | 125                                                                                 | 155                                                                                 |                                                                                     |
| Queue Length 95th (ft)  | 61                                                                                | #462                                                                              |                                                                                   | #882                                                                              | 347                                                                               |                                                                                   | 136                                                                               | 399                                                                                 | 617                                                                                 | #189                                                                                | 204                                                                                 |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 305                                                                               |                                                                                   |                                                                                   | 623                                                                               |                                                                                   |                                                                                   | 532                                                                                 |                                                                                     |                                                                                     | 481                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 200                                                                               |                                                                                   |                                                                                   | 495                                                                               |                                                                                   |                                                                                   | 175                                                                               |                                                                                     |                                                                                     | 350                                                                                 |                                                                                     |                                                                                     |
| Base Capacity (vph)     | 635                                                                               | 910                                                                               |                                                                                   | 525                                                                               | 1549                                                                              |                                                                                   | 345                                                                               | 484                                                                                 | 863                                                                                 | 275                                                                                 | 909                                                                                 |                                                                                     |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       | 0.13                                                                              | 0.89                                                                              |                                                                                   | 1.17                                                                              | 0.51                                                                              |                                                                                   | 0.41                                                                              | 0.69                                                                                | 0.80                                                                                | 0.73                                                                                | 0.44                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 132.4

Natural Cycle: 110

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.17

Intersection Signal Delay: 58.0

Intersection LOS: E

Intersection Capacity Utilization 96.6%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

### Splits and Phases: 1: Route 11 & Route 31

|                                                                                        |                                                                                        |                                                                                        |                                                                                          |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
|  Ø1 |  Ø2 |  Ø3 |  Ø4 |
| 40 s                                                                                   | 40 s                                                                                   | 20 s                                                                                   | 40 s                                                                                     |
|  Ø5 |  Ø6 |  Ø7 |  Ø8 |
| 40 s                                                                                   | 40 s                                                                                   | 20 s                                                                                   | 40 s                                                                                     |



# Lanes, Volumes, Timings

## 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

07/05/2022

|                            |  |                                                                                    |  |  |                                                                                    |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                                                                                                                 | EBR                                                                               | WBL                                                                               | WBT                                                                                                                                                                 | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |                                                                                   |   |                                                                                   |  |   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |  |  |
| Traffic Volume (vph)       | 0                                                                                 | 1132                                                                                                                                                                | 267                                                                               | 426                                                                               | 1089                                                                                                                                                                | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 165                                                                                 | 0                                                                                   | 187                                                                                 |
| Future Volume (vph)        | 0                                                                                 | 1132                                                                                                                                                                | 267                                                                               | 426                                                                               | 1089                                                                                                                                                                | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 165                                                                                 | 0                                                                                   | 187                                                                                 |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                                                                                                                | 1900                                                                              | 1900                                                                              | 1900                                                                                                                                                                | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 0                                                                                 |                                                                                                                                                                     | 0                                                                                 | 150                                                                               |                                                                                                                                                                     | 0                                                                                 | 0                                                                                 |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     | 125                                                                                 |
| Storage Lanes              | 0                                                                                 |                                                                                                                                                                     | 0                                                                                 | 1                                                                                 |                                                                                                                                                                     | 0                                                                                 | 0                                                                                 |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     | 1                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                                                                                                     |                                                                                   | 75                                                                                |                                                                                                                                                                     |                                                                                   | 75                                                                                |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 0                                                                                 | 3437                                                                                                                                                                | 0                                                                                 | 1770                                                                              | 3539                                                                                                                                                                | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 1752                                                                                | 1568                                                                                |
| Flt Permitted              |                                                                                   |                                                                                                                                                                     |                                                                                   | 0.072                                                                             |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 0.950                                                                               |                                                                                     |
| Satd. Flow (perm)          | 0                                                                                 | 3437                                                                                                                                                                | 0                                                                                 | 134                                                                               | 3539                                                                                                                                                                | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 1752                                                                                | 1568                                                                                |
| Right Turn on Red          |                                                                                   |                                                                                                                                                                     | Yes                                                                               |                                                                                   |                                                                                                                                                                     | Yes                                                                               |                                                                                   |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   | 31                                                                                                                                                                  |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 152                                                                                 |
| Link Speed (mph)           |                                                                                   | 35                                                                                                                                                                  |                                                                                   |                                                                                   | 35                                                                                                                                                                  |                                                                                   |                                                                                   | 40                                                                                  |                                                                                     |                                                                                     | 40                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 703                                                                                                                                                                 |                                                                                   |                                                                                   | 360                                                                                                                                                                 |                                                                                   |                                                                                   | 622                                                                                 |                                                                                     |                                                                                     | 505                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 13.7                                                                                                                                                                |                                                                                   |                                                                                   | 7.0                                                                                                                                                                 |                                                                                   |                                                                                   | 10.6                                                                                |                                                                                     |                                                                                     | 8.6                                                                                 |                                                                                     |
| Confl. Peds. (#/hr)        | 1                                                                                 |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     | 1                                                                                 |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Peak Hour Factor           | 0.93                                                                              | 0.93                                                                                                                                                                | 0.93                                                                              | 0.93                                                                              | 0.93                                                                                                                                                                | 0.93                                                                              | 0.90                                                                              | 0.90                                                                                | 0.90                                                                                | 0.79                                                                                | 0.79                                                                                | 0.79                                                                                |
| Heavy Vehicles (%)         | 2%                                                                                | 2%                                                                                                                                                                  | 2%                                                                                | 2%                                                                                | 2%                                                                                                                                                                  | 2%                                                                                | 2%                                                                                | 2%                                                                                  | 2%                                                                                  | 3%                                                                                  | 3%                                                                                  | 3%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 0                                                                                 | 1504                                                                                                                                                                | 0                                                                                 | 458                                                                               | 1171                                                                                                                                                                | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 209                                                                                 | 237                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                                                                                                  | No                                                                                | No                                                                                | No                                                                                                                                                                  | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                                                                                                                | Right                                                                             | Left                                                                              | Left                                                                                                                                                                | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                                                                                                  |                                                                                   |                                                                                   | 12                                                                                                                                                                  |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                                                                                                   |                                                                                   |                                                                                   | 0                                                                                                                                                                   |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                                                                                                  |                                                                                   |                                                                                   | 16                                                                                                                                                                  |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                                                                                                                | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                                                                                                | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                                                                                                     | 9                                                                                 | 15                                                                                |                                                                                                                                                                     | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  |                                                                                   | NA                                                                                                                                                                  |                                                                                   | pm+pt                                                                             | NA                                                                                                                                                                  |                                                                                   |                                                                                   |                                                                                     |                                                                                     | Perm                                                                                | NA                                                                                  | Perm                                                                                |
| Protected Phases           |                                                                                   | 2                                                                                                                                                                   |                                                                                   | 1 3                                                                               | 6                                                                                                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |
| Permitted Phases           |                                                                                   |                                                                                                                                                                     |                                                                                   | 6                                                                                 |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     | 4                                                                                   |
| Detector Phase             |                                                                                   | 2                                                                                                                                                                   |                                                                                   | 1 3                                                                               | 6                                                                                                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 4                                                                                   | 4                                                                                   | 4                                                                                   |
| Switch Phase               |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        |                                                                                   | 12.0                                                                                                                                                                |                                                                                   |                                                                                   | 12.0                                                                                                                                                                |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 |
| Minimum Split (s)          |                                                                                   | 17.0                                                                                                                                                                |                                                                                   |                                                                                   | 17.0                                                                                                                                                                |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 9.0                                                                                 | 9.0                                                                                 | 9.0                                                                                 |
| Total Split (s)            |                                                                                   | 50.0                                                                                                                                                                |                                                                                   |                                                                                   | 91.0                                                                                                                                                                |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 19.0                                                                                | 19.0                                                                                | 19.0                                                                                |
| Total Split (%)            |                                                                                   | 45.5%                                                                                                                                                               |                                                                                   |                                                                                   | 82.7%                                                                                                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 17.3%                                                                               | 17.3%                                                                               | 17.3%                                                                               |
| Maximum Green (s)          |                                                                                   | 45.0                                                                                                                                                                |                                                                                   |                                                                                   | 86.0                                                                                                                                                                |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 14.0                                                                                | 14.0                                                                                | 14.0                                                                                |
| Yellow Time (s)            |                                                                                   | 3.5                                                                                                                                                                 |                                                                                   |                                                                                   | 3.5                                                                                                                                                                 |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 |
| All-Red Time (s)           |                                                                                   | 1.5                                                                                                                                                                 |                                                                                   |                                                                                   | 1.5                                                                                                                                                                 |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 1.0                                                                                 | 1.0                                                                                 | 1.0                                                                                 |
| Lost Time Adjust (s)       |                                                                                   | 0.0                                                                                                                                                                 |                                                                                   |                                                                                   | 0.0                                                                                                                                                                 |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |
| Total Lost Time (s)        |                                                                                   | 5.0                                                                                                                                                                 |                                                                                   |                                                                                   | 5.0                                                                                                                                                                 |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |
| Lead/Lag                   |                                                                                   | Lag                                                                                                                                                                 |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?         |                                                                                   | Yes                                                                                                                                                                 |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Vehicle Extension (s)      |                                                                                   | 3.0                                                                                                                                                                 |                                                                                   |                                                                                   | 3.0                                                                                                                                                                 |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |
| Recall Mode                |                                                                                   | C-Min                                                                                                                                                               |                                                                                   |                                                                                   | C-Min                                                                                                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     | None                                                                                | None                                                                                | None                                                                                |
| Act Effect Green (s)       |                                                                                   | 45.9                                                                                                                                                                |                                                                                   | 84.4                                                                              | 84.4                                                                                                                                                                |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 15.6                                                                                | 15.6                                                                                |
| Actuated g/C Ratio         |                                                                                   | 0.42                                                                                                                                                                |                                                                                   | 0.77                                                                              | 0.77                                                                                                                                                                |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 0.14                                                                                | 0.14                                                                                |
| v/c Ratio                  |                                                                                   | 1.04                                                                                                                                                                |                                                                                   | 0.87                                                                              | 0.43                                                                                                                                                                |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 0.85                                                                                | 0.67                                                                                |



# Lanes, Volumes, Timings

## 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

07/05/2022

| Lane Group                 | Ø1   | Ø3   |
|----------------------------|------|------|
| Lane Configurations        |      |      |
| Traffic Volume (vph)       |      |      |
| Future Volume (vph)        |      |      |
| Ideal Flow (vphpl)         |      |      |
| Storage Length (ft)        |      |      |
| Storage Lanes              |      |      |
| Taper Length (ft)          |      |      |
| Satd. Flow (prot)          |      |      |
| Flt Permitted              |      |      |
| Satd. Flow (perm)          |      |      |
| Right Turn on Red          |      |      |
| Satd. Flow (RTOR)          |      |      |
| Link Speed (mph)           |      |      |
| Link Distance (ft)         |      |      |
| Travel Time (s)            |      |      |
| Confl. Peds. (#/hr)        |      |      |
| Peak Hour Factor           |      |      |
| Heavy Vehicles (%)         |      |      |
| Shared Lane Traffic (%)    |      |      |
| Lane Group Flow (vph)      |      |      |
| Enter Blocked Intersection |      |      |
| Lane Alignment             |      |      |
| Median Width(ft)           |      |      |
| Link Offset(ft)            |      |      |
| Crosswalk Width(ft)        |      |      |
| Two way Left Turn Lane     |      |      |
| Headway Factor             |      |      |
| Turning Speed (mph)        |      |      |
| Turn Type                  |      |      |
| Protected Phases           | 1    | 3    |
| Permitted Phases           |      |      |
| Detector Phase             |      |      |
| Switch Phase               |      |      |
| Minimum Initial (s)        | 4.0  | 4.0  |
| Minimum Split (s)          | 9.0  | 9.0  |
| Total Split (s)            | 13.0 | 28.0 |
| Total Split (%)            | 12%  | 25%  |
| Maximum Green (s)          | 8.0  | 23.0 |
| Yellow Time (s)            | 3.5  | 3.5  |
| All-Red Time (s)           | 1.5  | 1.5  |
| Lost Time Adjust (s)       |      |      |
| Total Lost Time (s)        |      |      |
| Lead/Lag                   | Lead |      |
| Lead-Lag Optimize?         | Yes  |      |
| Vehicle Extension (s)      | 3.0  | 3.0  |
| Recall Mode                | None | None |
| Act Effect Green (s)       |      |      |
| Actuated g/C Ratio         |      |      |
| v/c Ratio                  |      |      |



# Lanes, Volumes, Timings

## 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

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|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Control Delay           |                                                                                   | 65.5                                                                              |                                                                                   | 36.4                                                                              | 3.1                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 75.9                                                                                | 27.6                                                                                |
| Queue Delay             |                                                                                   | 25.5                                                                              |                                                                                   | 57.5                                                                              | 2.5                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 1.4                                                                                 | 0.0                                                                                 |
| Total Delay             |                                                                                   | 91.1                                                                              |                                                                                   | 94.0                                                                              | 5.6                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 77.3                                                                                | 27.6                                                                                |
| LOS                     |                                                                                   | F                                                                                 |                                                                                   | F                                                                                 | A                                                                                 |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | E                                                                                   | C                                                                                   |
| Approach Delay          |                                                                                   | 91.1                                                                              |                                                                                   |                                                                                   | 30.4                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 50.8                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | F                                                                                 |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Queue Length 50th (ft)  |                                                                                   | ~607                                                                              |                                                                                   | 176                                                                               | 8                                                                                 |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 146                                                                                 | 55                                                                                  |
| Queue Length 95th (ft)  |                                                                                   | #748                                                                              |                                                                                   | m247                                                                              | m7                                                                                |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | #238                                                                                | 108                                                                                 |
| Internal Link Dist (ft) |                                                                                   | 623                                                                               |                                                                                   |                                                                                   | 280                                                                               |                                                                                   |                                                                                   | 542                                                                                 |                                                                                     |                                                                                     | 425                                                                                 |                                                                                     |
| Turn Bay Length (ft)    |                                                                                   |                                                                                   |                                                                                   | 150                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 125                                                                                 |
| Base Capacity (vph)     |                                                                                   | 1451                                                                              |                                                                                   | 579                                                                               | 2766                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 247                                                                                 | 352                                                                                 |
| Starvation Cap Reductn  |                                                                                   | 0                                                                                 |                                                                                   | 304                                                                               | 1424                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 0                                                                                   | 0                                                                                   |
| Spillback Cap Reductn   |                                                                                   | 185                                                                               |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 5                                                                                   | 0                                                                                   |
| Storage Cap Reductn     |                                                                                   | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 0                                                                                   | 0                                                                                   |
| Reduced v/c Ratio       |                                                                                   | 1.19                                                                              |                                                                                   | 1.67                                                                              | 0.87                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 0.86                                                                                | 0.67                                                                                |

### Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 8 (7%), Referenced to phase 2:EBT and 6:WBTL, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.04

Intersection Signal Delay: 58.5

Intersection LOS: E

Intersection Capacity Utilization 85.1%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

### Splits and Phases: 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

|                                                                                     |                                                                                     |                                                                                     |                                                                                       |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  |  |  |  |
| Ø1                                                                                  | Ø2 (R)                                                                              | Ø3                                                                                  | Ø4                                                                                    |
| 13 s                                                                                | 50 s                                                                                | 28 s                                                                                | 19 s                                                                                  |
|  |  |  |                                                                                       |
| Ø6 (R)                                                                              |                                                                                     |                                                                                     |                                                                                       |
| 91 s                                                                                |                                                                                     |                                                                                     |                                                                                       |



## Lanes, Volumes, Timings

### 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

07/05/2022

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| Lane Group | Ø1 | Ø3 |
|------------|----|----|
|------------|----|----|

---

Control Delay

Queue Delay

Total Delay

LOS

Approach Delay

Approach LOS

Queue Length 50th (ft)

Queue Length 95th (ft)

Internal Link Dist (ft)

Turn Bay Length (ft)

Base Capacity (vph)

Starvation Cap Reductn

Spillback Cap Reductn

Storage Cap Reductn

Reduced v/c Ratio

Intersection Summary

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# Lanes, Volumes, Timings

## 3: I-81 NB Offramp/Pardee Road & Route 31

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |  |  |                                                                                   |                                                                                   |  |                                                                                   |  |  |  |                                                                                     |                                                                                     |  |
| Traffic Volume (vph)       | 281                                                                               | 1016                                                                              | 0                                                                                 | 0                                                                                 | 1186                                                                              | 221                                                                               | 208                                                                               | 50                                                                                  | 451                                                                                 | 0                                                                                   | 0                                                                                   | 121                                                                                 |
| Future Volume (vph)        | 281                                                                               | 1016                                                                              | 0                                                                                 | 0                                                                                 | 1186                                                                              | 221                                                                               | 208                                                                               | 50                                                                                  | 451                                                                                 | 0                                                                                   | 0                                                                                   | 121                                                                                 |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 85                                                                                |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 310                                                                               |                                                                                     | 100                                                                                 | 0                                                                                   |                                                                                     | 0                                                                                   |
| Storage Lanes              | 1                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                     | 1                                                                                   | 0                                                                                   |                                                                                     | 1                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 1787                                                                              | 3574                                                                              | 0                                                                                 | 0                                                                                 | 3488                                                                              | 0                                                                                 | 1787                                                                              | 1881                                                                                | 1599                                                                                | 0                                                                                   | 0                                                                                   | 1627                                                                                |
| Flt Permitted              | 0.086                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.950                                                                             |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Satd. Flow (perm)          | 162                                                                               | 3574                                                                              | 0                                                                                 | 0                                                                                 | 3488                                                                              | 0                                                                                 | 1787                                                                              | 1881                                                                                | 1599                                                                                | 0                                                                                   | 0                                                                                   | 1627                                                                                |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 19                                                                                |                                                                                   |                                                                                   |                                                                                     | 74                                                                                  |                                                                                     |                                                                                     | 267                                                                                 |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 40                                                                                  |                                                                                     |                                                                                     | 55                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 360                                                                               |                                                                                   |                                                                                   | 1082                                                                              |                                                                                   |                                                                                   | 639                                                                                 |                                                                                     |                                                                                     | 500                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 7.0                                                                               |                                                                                   |                                                                                   | 21.1                                                                              |                                                                                   |                                                                                   | 10.9                                                                                |                                                                                     |                                                                                     | 6.2                                                                                 |                                                                                     |
| Peak Hour Factor           | 0.91                                                                              | 0.91                                                                              | 0.91                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                                | 0.93                                                                                | 0.87                                                                                | 0.87                                                                                | 0.87                                                                                |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 309                                                                               | 1116                                                                              | 0                                                                                 | 0                                                                                 | 1513                                                                              | 0                                                                                 | 224                                                                               | 54                                                                                  | 485                                                                                 | 0                                                                                   | 0                                                                                   | 139                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                  |                                                                                     |                                                                                     | 12                                                                                  |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | pm+pt                                                                             | NA                                                                                |                                                                                   |                                                                                   | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                  | Perm                                                                                |                                                                                     |                                                                                     | Over                                                                                |
| Protected Phases           | 5                                                                                 | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     | 5                                                                                   |
| Permitted Phases           | 2                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 8                                                                                 |                                                                                     | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Detector Phase             | 5                                                                                 | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   | 8                                                                                 | 8                                                                                   | 8                                                                                   |                                                                                     |                                                                                     | 5                                                                                   |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 4.0                                                                               | 12.0                                                                              |                                                                                   |                                                                                   | 12.0                                                                              |                                                                                   | 6.0                                                                               | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |                                                                                     | 4.0                                                                                 |
| Minimum Split (s)          | 9.0                                                                               | 17.5                                                                              |                                                                                   |                                                                                   | 17.5                                                                              |                                                                                   | 12.0                                                                              | 12.0                                                                                | 12.0                                                                                |                                                                                     |                                                                                     | 9.0                                                                                 |
| Total Split (s)            | 31.0                                                                              | 66.0                                                                              |                                                                                   |                                                                                   | 35.0                                                                              |                                                                                   | 44.0                                                                              | 44.0                                                                                | 44.0                                                                                |                                                                                     |                                                                                     | 31.0                                                                                |
| Total Split (%)            | 28.2%                                                                             | 60.0%                                                                             |                                                                                   |                                                                                   | 31.8%                                                                             |                                                                                   | 40.0%                                                                             | 40.0%                                                                               | 40.0%                                                                               |                                                                                     |                                                                                     | 28.2%                                                                               |
| Maximum Green (s)          | 26.0                                                                              | 60.5                                                                              |                                                                                   |                                                                                   | 29.5                                                                              |                                                                                   | 38.0                                                                              | 38.0                                                                                | 38.0                                                                                |                                                                                     |                                                                                     | 26.0                                                                                |
| Yellow Time (s)            | 3.0                                                                               | 3.5                                                                               |                                                                                   |                                                                                   | 3.5                                                                               |                                                                                   | 4.0                                                                               | 4.0                                                                                 | 4.0                                                                                 |                                                                                     |                                                                                     | 3.0                                                                                 |
| All-Red Time (s)           | 2.0                                                                               | 2.0                                                                               |                                                                                   |                                                                                   | 2.0                                                                               |                                                                                   | 2.0                                                                               | 2.0                                                                                 | 2.0                                                                                 |                                                                                     |                                                                                     | 2.0                                                                                 |
| Lost Time Adjust (s)       | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |                                                                                     | 0.0                                                                                 |
| Total Lost Time (s)        | 5.0                                                                               | 5.5                                                                               |                                                                                   |                                                                                   | 5.5                                                                               |                                                                                   | 6.0                                                                               | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |                                                                                     | 5.0                                                                                 |
| Lead/Lag                   | Lead                                                                              |                                                                                   |                                                                                   |                                                                                   | Lag                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | Lead                                                                                |
| Lead-Lag Optimize?         | Yes                                                                               |                                                                                   |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | Yes                                                                                 |
| Vehicle Extension (s)      | 3.0                                                                               | 3.0                                                                               |                                                                                   |                                                                                   | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |                                                                                     | 3.0                                                                                 |
| Recall Mode                | None                                                                              | C-Min                                                                             |                                                                                   |                                                                                   | C-Min                                                                             |                                                                                   | None                                                                              | None                                                                                | None                                                                                |                                                                                     |                                                                                     | None                                                                                |
| Act Effct Green (s)        | 65.2                                                                              | 64.7                                                                              |                                                                                   |                                                                                   | 41.6                                                                              |                                                                                   | 33.8                                                                              | 33.8                                                                                | 33.8                                                                                |                                                                                     |                                                                                     | 18.1                                                                                |
| Actuated g/C Ratio         | 0.59                                                                              | 0.59                                                                              |                                                                                   |                                                                                   | 0.38                                                                              |                                                                                   | 0.31                                                                              | 0.31                                                                                | 0.31                                                                                |                                                                                     |                                                                                     | 0.16                                                                                |
| v/c Ratio                  | 0.85                                                                              | 0.53                                                                              |                                                                                   |                                                                                   | 1.14                                                                              |                                                                                   | 0.41                                                                              | 0.09                                                                                | 0.90                                                                                |                                                                                     |                                                                                     | 0.28                                                                                |
| Control Delay              | 36.0                                                                              | 28.3                                                                              |                                                                                   |                                                                                   | 104.3                                                                             |                                                                                   | 31.7                                                                              | 25.6                                                                                | 50.6                                                                                |                                                                                     |                                                                                     | 1.4                                                                                 |



# Lanes, Volumes, Timings

## 3: I-81 NB Offramp/Pardee Road & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Queue Delay             | 0.9                                                                               | 10.6                                                                              |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   | 0.1                                                                               | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |                                                                                     | 0.0                                                                                 |
| Total Delay             | 36.9                                                                              | 38.9                                                                              |                                                                                   |                                                                                   | 104.3                                                                             |                                                                                   | 31.8                                                                              | 25.6                                                                                | 50.6                                                                                |                                                                                     |                                                                                     | 1.5                                                                                 |
| LOS                     | D                                                                                 | D                                                                                 |                                                                                   |                                                                                   | F                                                                                 |                                                                                   | C                                                                                 | C                                                                                   | D                                                                                   |                                                                                     |                                                                                     | A                                                                                   |
| Approach Delay          |                                                                                   | 38.5                                                                              |                                                                                   |                                                                                   | 104.3                                                                             |                                                                                   |                                                                                   | 43.3                                                                                |                                                                                     |                                                                                     | 1.5                                                                                 |                                                                                     |
| Approach LOS            |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | F                                                                                 |                                                                                   |                                                                                   | D                                                                                   |                                                                                     |                                                                                     | A                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 191                                                                               | 321                                                                               |                                                                                   |                                                                                   | ~691                                                                              |                                                                                   | 120                                                                               | 26                                                                                  | 273                                                                                 |                                                                                     |                                                                                     | 0                                                                                   |
| Queue Length 95th (ft)  | m191                                                                              | m318                                                                              |                                                                                   |                                                                                   | #947                                                                              |                                                                                   | 185                                                                               | 54                                                                                  | #439                                                                                |                                                                                     |                                                                                     | 0                                                                                   |
| Internal Link Dist (ft) |                                                                                   | 280                                                                               |                                                                                   |                                                                                   | 1002                                                                              |                                                                                   |                                                                                   | 559                                                                                 |                                                                                     |                                                                                     | 420                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 85                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 310                                                                               |                                                                                     | 100                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| Base Capacity (vph)     | 479                                                                               | 2103                                                                              |                                                                                   |                                                                                   | 1331                                                                              |                                                                                   | 617                                                                               | 649                                                                                 | 600                                                                                 |                                                                                     |                                                                                     | 588                                                                                 |
| Starvation Cap Reductn  | 42                                                                                | 966                                                                               |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 12                                                                                |                                                                                   | 45                                                                                | 0                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 10                                                                                  |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |
| Reduced v/c Ratio       | 0.71                                                                              | 0.98                                                                              |                                                                                   |                                                                                   | 1.15                                                                              |                                                                                   | 0.39                                                                              | 0.08                                                                                | 0.81                                                                                |                                                                                     |                                                                                     | 0.24                                                                                |

### Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 87 (79%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.14

Intersection Signal Delay: 64.0

Intersection LOS: E

Intersection Capacity Utilization 80.7%

ICU Level of Service D

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

### Splits and Phases: 3: I-81 NB Offramp/Pardee Road & Route 31

|                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  |  |  |  |  |  |
| Ø2 (R)                                                                              |                                                                                     |                                                                                     | Ø6 (R)                                                                              |                                                                                     | Ø8                                                                                  |
| 66 s                                                                                |                                                                                     |                                                                                     | 35 s                                                                                |                                                                                     | 44 s                                                                                |
| Ø5                                                                                  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| 31 s                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |



# Lanes, Volumes, Timings

## 4: Route 31 & Lakeshore Road

07/05/2022

|                            |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | WBT                                                                               | WBR                                                                               | SBL                                                                               | SBR                                                                               |
| Lane Configurations        |  |  |  |                                                                                   |  |                                                                                   |
| Traffic Volume (vph)       | 572                                                                               | 895                                                                               | 851                                                                               | 0                                                                                 | 0                                                                                 | 556                                                                               |
| Future Volume (vph)        | 572                                                                               | 895                                                                               | 851                                                                               | 0                                                                                 | 0                                                                                 | 556                                                                               |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Storage Length (ft)        | 225                                                                               |                                                                                   |                                                                                   | 0                                                                                 | 0                                                                                 | 0                                                                                 |
| Storage Lanes              | 1                                                                                 |                                                                                   |                                                                                   | 0                                                                                 | 1                                                                                 | 0                                                                                 |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |
| Satd. Flow (prot)          | 1787                                                                              | 3574                                                                              | 1881                                                                              | 0                                                                                 | 1627                                                                              | 0                                                                                 |
| Flt Permitted              | 0.950                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Satd. Flow (perm)          | 1787                                                                              | 3574                                                                              | 1881                                                                              | 0                                                                                 | 1627                                                                              | 0                                                                                 |
| Link Speed (mph)           |                                                                                   | 35                                                                                | 35                                                                                |                                                                                   | 35                                                                                |                                                                                   |
| Link Distance (ft)         |                                                                                   | 1082                                                                              | 959                                                                               |                                                                                   | 962                                                                               |                                                                                   |
| Travel Time (s)            |                                                                                   | 21.1                                                                              | 18.7                                                                              |                                                                                   | 18.7                                                                              |                                                                                   |
| Peak Hour Factor           | 0.93                                                                              | 0.93                                                                              | 0.87                                                                              | 0.87                                                                              | 0.93                                                                              | 0.93                                                                              |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)      | 615                                                                               | 962                                                                               | 978                                                                               | 0                                                                                 | 598                                                                               | 0                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment             | Left                                                                              | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Right                                                                             |
| Median Width(ft)           |                                                                                   | 12                                                                                | 12                                                                                |                                                                                   | 12                                                                                |                                                                                   |
| Link Offset(ft)            |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 |                                                                                   |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                | 16                                                                                |                                                                                   | 16                                                                                |                                                                                   |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (mph)        | 15                                                                                |                                                                                   |                                                                                   | 9                                                                                 | 15                                                                                | 9                                                                                 |
| Sign Control               |                                                                                   | Free                                                                              | Free                                                                              |                                                                                   | Stop                                                                              |                                                                                   |

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 120.9%

ICU Level of Service H

Analysis Period (min) 15



HCM 6th TWSC  
4: Route 31 & Lakeshore Road

07/05/2022

Intersection

| Int Delay, s/veh         | 96.1 |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Movement                 | EBL  | EBT  | WBT  | WBR  | SBL  | SBR  |
| Lane Configurations      | ↵    | ↗↗   | ↗    |      | ↘    |      |
| Traffic Vol, veh/h       | 572  | 895  | 851  | 0    | 0    | 556  |
| Future Vol, veh/h        | 572  | 895  | 851  | 0    | 0    | 556  |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | 225  | -    | -    | -    | 0    | -    |
| Veh in Median Storage, # | -    | 0    | 0    | -    | 0    | -    |
| Grade, %                 | -    | 0    | 0    | -    | 0    | -    |
| Peak Hour Factor         | 93   | 93   | 87   | 87   | 93   | 93   |
| Heavy Vehicles, %        | 1    | 1    | 1    | 1    | 1    | 1    |
| Mvmt Flow                | 615  | 962  | 978  | 0    | 0    | 598  |

| Major/Minor          | Major1 | Major2 | Minor2          |
|----------------------|--------|--------|-----------------|
| Conflicting Flow All | 978    | 0      | 0 2689 978      |
| Stage 1              | -      | -      | - 978 -         |
| Stage 2              | -      | -      | - 1711 -        |
| Critical Hdwy        | 4.115  | -      | - 6.615 6.215   |
| Critical Hdwy Stg 1  | -      | -      | - 5.415 -       |
| Critical Hdwy Stg 2  | -      | -      | - 5.815 -       |
| Follow-up Hdwy       | 2.2095 | -      | - 3.5095 3.3095 |
| Pot Cap-1 Maneuver   | 709    | -      | - 21 ~ 305      |
| Stage 1              | -      | -      | - 365 -         |
| Stage 2              | -      | -      | - 133 -         |
| Platoon blocked, %   | -      | -      | -               |
| Mov Cap-1 Maneuver   | 709    | -      | - 3 ~ 305       |
| Mov Cap-2 Maneuver   | -      | -      | - 3 -           |
| Stage 1              | -      | -      | - 49 -          |
| Stage 2              | -      | -      | - 133 -         |

| Approach             | EB   | WB | SB       |
|----------------------|------|----|----------|
| HCM Control Delay, s | 13.2 | 0  | \$ 471.8 |
| HCM LOS              |      |    | F        |

| Minor Lane/Major Mvmt | EBL   | EBT | WBT | WBR | SBLn1    |
|-----------------------|-------|-----|-----|-----|----------|
| Capacity (veh/h)      | 709   | -   | -   | -   | 305      |
| HCM Lane V/C Ratio    | 0.867 | -   | -   | -   | 1.96     |
| HCM Control Delay (s) | 33.8  | -   | -   | -   | \$ 471.8 |
| HCM Lane LOS          | D     | -   | -   | -   | F        |
| HCM 95th %tile Q(veh) | 10.4  | -   | -   | -   | 42       |

Notes

~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon



Lanes, Volumes, Timings  
5: South Bay Road & Route 31

07/05/2022

|                            |  |  |  |  |  |  |   |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |  |  |                                                                                   |  |  |                                                                                   |  |  |                                                                                     |  |  |                                                                                     |
| Traffic Volume (vph)       | 101                                                                               | 420                                                                               | 67                                                                                | 180                                                                               | 433                                                                               | 21                                                                                | 69                                                                                 | 281                                                                                 | 153                                                                                 | 13                                                                                  | 290                                                                                 | 121                                                                                 |
| Future Volume (vph)        | 101                                                                               | 420                                                                               | 67                                                                                | 180                                                                               | 433                                                                               | 21                                                                                | 69                                                                                 | 281                                                                                 | 153                                                                                 | 13                                                                                  | 290                                                                                 | 121                                                                                 |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                               | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 225                                                                               |                                                                                   | 0                                                                                 | 225                                                                               |                                                                                   | 0                                                                                 | 280                                                                                |                                                                                     | 0                                                                                   | 225                                                                                 |                                                                                     | 0                                                                                   |
| Storage Lanes              | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                  |                                                                                     | 0                                                                                   | 1                                                                                   |                                                                                     | 0                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                 |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 1787                                                                              | 1842                                                                              | 0                                                                                 | 1787                                                                              | 1868                                                                              | 0                                                                                 | 1752                                                                               | 1732                                                                                | 0                                                                                   | 1752                                                                                | 1750                                                                                | 0                                                                                   |
| Flt Permitted              | 0.193                                                                             |                                                                                   |                                                                                   | 0.147                                                                             |                                                                                   |                                                                                   | 0.115                                                                              |                                                                                     |                                                                                     | 0.238                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)          | 363                                                                               | 1842                                                                              | 0                                                                                 | 277                                                                               | 1868                                                                              | 0                                                                                 | 212                                                                                | 1732                                                                                | 0                                                                                   | 439                                                                                 | 1750                                                                                | 0                                                                                   |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                    |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                 |                                                                                   |                                                                                    | 24                                                                                  |                                                                                     |                                                                                     | 18                                                                                  |                                                                                     |
| Link Speed (mph)           |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 55                                                                                |                                                                                   |                                                                                    | 45                                                                                  |                                                                                     |                                                                                     | 45                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 788                                                                               |                                                                                   |                                                                                   | 825                                                                               |                                                                                   |                                                                                    | 794                                                                                 |                                                                                     |                                                                                     | 652                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 11.9                                                                              |                                                                                   |                                                                                   | 10.2                                                                              |                                                                                   |                                                                                    | 12.0                                                                                |                                                                                     |                                                                                     | 9.9                                                                                 |                                                                                     |
| Confl. Peds. (#/hr)        |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 3                                                                                  |                                                                                     | 2                                                                                   | 2                                                                                   |                                                                                     | 3                                                                                   |
| Peak Hour Factor           | 0.89                                                                              | 0.89                                                                              | 0.89                                                                              | 1.00                                                                              | 0.86                                                                              | 0.86                                                                              | 0.80                                                                               | 0.88                                                                                | 0.88                                                                                | 0.73                                                                                | 0.73                                                                                | 0.73                                                                                |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 3%                                                                                 | 3%                                                                                  | 3%                                                                                  | 3%                                                                                  | 3%                                                                                  | 3%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 113                                                                               | 547                                                                               | 0                                                                                 | 180                                                                               | 527                                                                               | 0                                                                                 | 86                                                                                 | 493                                                                                 | 0                                                                                   | 18                                                                                  | 563                                                                                 | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                 | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                               | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                    | 12                                                                                  |                                                                                     |                                                                                     | 12                                                                                  |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                    | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                    | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                 |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                              | NA                                                                                  |                                                                                     | pm+pt                                                                               | NA                                                                                  |                                                                                     |
| Protected Phases           | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 3                                                                                  | 8                                                                                   |                                                                                     | 7                                                                                   | 4                                                                                   |                                                                                     |
| Permitted Phases           | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                  |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |                                                                                     |
| Detector Phase             | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 3                                                                                  | 8                                                                                   |                                                                                     | 7                                                                                   | 4                                                                                   |                                                                                     |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 6.0                                                                               | 15.0                                                                              |                                                                                   | 6.0                                                                               | 15.0                                                                              |                                                                                   | 6.0                                                                                | 10.0                                                                                |                                                                                     | 6.0                                                                                 | 10.0                                                                                |                                                                                     |
| Minimum Split (s)          | 10.5                                                                              | 22.8                                                                              |                                                                                   | 10.5                                                                              | 22.8                                                                              |                                                                                   | 10.5                                                                               | 16.8                                                                                |                                                                                     | 10.5                                                                                | 16.8                                                                                |                                                                                     |
| Total Split (s)            | 15.0                                                                              | 45.0                                                                              |                                                                                   | 15.0                                                                              | 45.0                                                                              |                                                                                   | 15.0                                                                               | 35.0                                                                                |                                                                                     | 15.0                                                                                | 35.0                                                                                |                                                                                     |
| Total Split (%)            | 13.6%                                                                             | 40.9%                                                                             |                                                                                   | 13.6%                                                                             | 40.9%                                                                             |                                                                                   | 13.6%                                                                              | 31.8%                                                                               |                                                                                     | 13.6%                                                                               | 31.8%                                                                               |                                                                                     |
| Maximum Green (s)          | 10.5                                                                              | 37.2                                                                              |                                                                                   | 10.5                                                                              | 37.2                                                                              |                                                                                   | 10.5                                                                               | 28.2                                                                                |                                                                                     | 10.5                                                                                | 28.2                                                                                |                                                                                     |
| Yellow Time (s)            | 3.5                                                                               | 4.9                                                                               |                                                                                   | 3.5                                                                               | 4.9                                                                               |                                                                                   | 3.5                                                                                | 4.9                                                                                 |                                                                                     | 3.5                                                                                 | 4.9                                                                                 |                                                                                     |
| All-Red Time (s)           | 1.0                                                                               | 2.9                                                                               |                                                                                   | 1.0                                                                               | 2.9                                                                               |                                                                                   | 1.0                                                                                | 1.9                                                                                 |                                                                                     | 1.0                                                                                 | 1.9                                                                                 |                                                                                     |
| Lost Time Adjust (s)       | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                                | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)        | 4.5                                                                               | 7.8                                                                               |                                                                                   | 4.5                                                                               | 7.8                                                                               |                                                                                   | 4.5                                                                                | 6.8                                                                                 |                                                                                     | 4.5                                                                                 | 6.8                                                                                 |                                                                                     |
| Lead/Lag                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                               | Lag                                                                                 |                                                                                     | Lead                                                                                | Lag                                                                                 |                                                                                     |
| Lead-Lag Optimize?         | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                                | Yes                                                                                 |                                                                                     | Yes                                                                                 | Yes                                                                                 |                                                                                     |
| Vehicle Extension (s)      | 3.0                                                                               | 6.0                                                                               |                                                                                   | 3.0                                                                               | 6.0                                                                               |                                                                                   | 3.0                                                                                | 6.0                                                                                 |                                                                                     | 3.0                                                                                 | 6.0                                                                                 |                                                                                     |
| Minimum Gap (s)            | 3.0                                                                               | 2.0                                                                               |                                                                                   | 3.0                                                                               | 2.0                                                                               |                                                                                   | 3.0                                                                                | 2.0                                                                                 |                                                                                     | 3.0                                                                                 | 2.0                                                                                 |                                                                                     |
| Time Before Reduce (s)     | 0.0                                                                               | 10.0                                                                              |                                                                                   | 0.0                                                                               | 10.0                                                                              |                                                                                   | 0.0                                                                                | 10.0                                                                                |                                                                                     | 0.0                                                                                 | 10.0                                                                                |                                                                                     |
| Time To Reduce (s)         | 0.0                                                                               | 15.0                                                                              |                                                                                   | 0.0                                                                               | 15.0                                                                              |                                                                                   | 0.0                                                                                | 15.0                                                                                |                                                                                     | 0.0                                                                                 | 15.0                                                                                |                                                                                     |
| Recall Mode                | None                                                                              | Min                                                                               |                                                                                   | None                                                                              | Min                                                                               |                                                                                   | None                                                                               | None                                                                                |                                                                                     | None                                                                                | None                                                                                |                                                                                     |



# Lanes, Volumes, Timings

## 5: South Bay Road & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Act Effect Green (s)    | 46.7                                                                              | 34.5                                                                              |                                                                                   | 48.5                                                                              | 35.3                                                                              |                                                                                   | 41.0                                                                               | 34.8                                                                                |                                                                                     | 36.0                                                                                | 28.6                                                                                |                                                                                     |
| Actuated g/C Ratio      | 0.45                                                                              | 0.34                                                                              |                                                                                   | 0.47                                                                              | 0.34                                                                              |                                                                                   | 0.40                                                                               | 0.34                                                                                |                                                                                     | 0.35                                                                                | 0.28                                                                                |                                                                                     |
| v/c Ratio               | 0.39                                                                              | 0.88                                                                              |                                                                                   | 0.66                                                                              | 0.82                                                                              |                                                                                   | 0.40                                                                               | 0.82                                                                                |                                                                                     | 0.08                                                                                | 1.13                                                                                |                                                                                     |
| Control Delay           | 18.4                                                                              | 49.4                                                                              |                                                                                   | 27.9                                                                              | 43.5                                                                              |                                                                                   | 25.8                                                                               | 44.4                                                                                |                                                                                     | 20.2                                                                                | 115.3                                                                               |                                                                                     |
| Queue Delay             | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                                | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Delay             | 18.4                                                                              | 49.4                                                                              |                                                                                   | 27.9                                                                              | 43.5                                                                              |                                                                                   | 25.8                                                                               | 44.4                                                                                |                                                                                     | 20.2                                                                                | 115.3                                                                               |                                                                                     |
| LOS                     | B                                                                                 | D                                                                                 |                                                                                   | C                                                                                 | D                                                                                 |                                                                                   | C                                                                                  | D                                                                                   |                                                                                     | C                                                                                   | F                                                                                   |                                                                                     |
| Approach Delay          |                                                                                   | 44.1                                                                              |                                                                                   |                                                                                   | 39.5                                                                              |                                                                                   |                                                                                    | 41.7                                                                                |                                                                                     |                                                                                     | 112.4                                                                               |                                                                                     |
| Approach LOS            |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                    | D                                                                                   |                                                                                     |                                                                                     | F                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 39                                                                                | 347                                                                               |                                                                                   | 65                                                                                | 325                                                                               |                                                                                   | 37                                                                                 | 275                                                                                 |                                                                                     | 7                                                                                   | ~470                                                                                |                                                                                     |
| Queue Length 95th (ft)  | 72                                                                                | #541                                                                              |                                                                                   | #120                                                                              | #456                                                                              |                                                                                   | 61                                                                                 | #526                                                                                |                                                                                     | 18                                                                                  | #498                                                                                |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 708                                                                               |                                                                                   |                                                                                   | 745                                                                               |                                                                                   |                                                                                    | 714                                                                                 |                                                                                     |                                                                                     | 572                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 225                                                                               |                                                                                   |                                                                                   | 225                                                                               |                                                                                   |                                                                                   | 280                                                                                |                                                                                     |                                                                                     | 225                                                                                 |                                                                                     |                                                                                     |
| Base Capacity (vph)     | 318                                                                               | 682                                                                               |                                                                                   | 289                                                                               | 696                                                                               |                                                                                   | 244                                                                                | 601                                                                                 |                                                                                     | 302                                                                                 | 500                                                                                 |                                                                                     |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       | 0.36                                                                              | 0.80                                                                              |                                                                                   | 0.62                                                                              | 0.76                                                                              |                                                                                   | 0.35                                                                               | 0.82                                                                                |                                                                                     | 0.06                                                                                | 1.13                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 102.8

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.13

Intersection Signal Delay: 58.0

Intersection LOS: E

Intersection Capacity Utilization 85.0%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

### Splits and Phases: 5: South Bay Road & Route 31

|                                                                                        |                                                                                        |                                                                                        |                                                                                          |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
|  Ø1 |  Ø2 |  Ø3 |  Ø4 |
| 15 s                                                                                   | 45 s                                                                                   | 15 s                                                                                   | 35 s                                                                                     |
|  Ø5 |  Ø6 |  Ø7 |  Ø8 |
| 15 s                                                                                   | 45 s                                                                                   | 15 s                                                                                   | 35 s                                                                                     |



# Lanes, Volumes, Timings

## 6: Cicero Center Road & Route 31

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (vph)       | 64                                                                                | 449                                                                               | 7                                                                                 | 3                                                                                 | 389                                                                               | 47                                                                                | 7                                                                                 | 21                                                                                  | 6                                                                                   | 50                                                                                  | 9                                                                                   | 45                                                                                  |
| Future Volume (vph)        | 64                                                                                | 449                                                                               | 7                                                                                 | 3                                                                                 | 389                                                                               | 47                                                                                | 7                                                                                 | 21                                                                                  | 6                                                                                   | 50                                                                                  | 9                                                                                   | 45                                                                                  |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Satd. Flow (prot)          | 0                                                                                 | 1866                                                                              | 0                                                                                 | 0                                                                                 | 1855                                                                              | 0                                                                                 | 0                                                                                 | 1816                                                                                | 0                                                                                   | 0                                                                                   | 1713                                                                                | 0                                                                                   |
| Flt Permitted              |                                                                                   | 0.895                                                                             |                                                                                   |                                                                                   | 0.997                                                                             |                                                                                   |                                                                                   | 0.925                                                                               |                                                                                     |                                                                                     | 0.822                                                                               |                                                                                     |
| Satd. Flow (perm)          | 0                                                                                 | 1680                                                                              | 0                                                                                 | 0                                                                                 | 1849                                                                              | 0                                                                                 | 0                                                                                 | 1696                                                                                | 0                                                                                   | 0                                                                                   | 1441                                                                                | 0                                                                                   |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   | 2                                                                                 |                                                                                   |                                                                                   | 17                                                                                |                                                                                   |                                                                                   | 9                                                                                   |                                                                                     |                                                                                     | 57                                                                                  |                                                                                     |
| Link Speed (mph)           |                                                                                   | 55                                                                                |                                                                                   |                                                                                   | 55                                                                                |                                                                                   |                                                                                   | 55                                                                                  |                                                                                     |                                                                                     | 55                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 583                                                                               |                                                                                   |                                                                                   | 608                                                                               |                                                                                   |                                                                                   | 500                                                                                 |                                                                                     |                                                                                     | 505                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 7.2                                                                               |                                                                                   |                                                                                   | 7.5                                                                               |                                                                                   |                                                                                   | 6.2                                                                                 |                                                                                     |                                                                                     | 6.3                                                                                 |                                                                                     |
| Confl. Peds. (#/hr)        |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 1                                                                                   |
| Peak Hour Factor           | 0.95                                                                              | 0.95                                                                              | 0.95                                                                              | 0.87                                                                              | 0.87                                                                              | 0.87                                                                              | 0.69                                                                              | 0.69                                                                                | 0.69                                                                                | 0.79                                                                                | 0.79                                                                                | 0.79                                                                                |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 0                                                                                 | 547                                                                               | 0                                                                                 | 0                                                                                 | 504                                                                               | 0                                                                                 | 0                                                                                 | 49                                                                                  | 0                                                                                   | 0                                                                                   | 131                                                                                 | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                  |                                                                                     | Perm                                                                                | NA                                                                                  |                                                                                     |
| Protected Phases           |                                                                                   | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                   |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |
| Permitted Phases           | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |                                                                                     |
| Detector Phase             | 2                                                                                 | 2                                                                                 |                                                                                   | 6                                                                                 | 6                                                                                 |                                                                                   | 8                                                                                 | 8                                                                                   |                                                                                     | 4                                                                                   | 4                                                                                   |                                                                                     |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 15.0                                                                              | 15.0                                                                              |                                                                                   | 15.0                                                                              | 15.0                                                                              |                                                                                   | 7.0                                                                               | 7.0                                                                                 |                                                                                     | 7.0                                                                                 | 7.0                                                                                 |                                                                                     |
| Minimum Split (s)          | 21.0                                                                              | 21.0                                                                              |                                                                                   | 21.0                                                                              | 21.0                                                                              |                                                                                   | 12.0                                                                              | 12.0                                                                                |                                                                                     | 12.0                                                                                | 12.0                                                                                |                                                                                     |
| Total Split (s)            | 30.0                                                                              | 30.0                                                                              |                                                                                   | 30.0                                                                              | 30.0                                                                              |                                                                                   | 20.0                                                                              | 20.0                                                                                |                                                                                     | 20.0                                                                                | 20.0                                                                                |                                                                                     |
| Total Split (%)            | 60.0%                                                                             | 60.0%                                                                             |                                                                                   | 60.0%                                                                             | 60.0%                                                                             |                                                                                   | 40.0%                                                                             | 40.0%                                                                               |                                                                                     | 40.0%                                                                               | 40.0%                                                                               |                                                                                     |
| Maximum Green (s)          | 24.0                                                                              | 24.0                                                                              |                                                                                   | 24.0                                                                              | 24.0                                                                              |                                                                                   | 15.0                                                                              | 15.0                                                                                |                                                                                     | 15.0                                                                                | 15.0                                                                                |                                                                                     |
| Yellow Time (s)            | 4.0                                                                               | 4.0                                                                               |                                                                                   | 4.0                                                                               | 4.0                                                                               |                                                                                   | 4.0                                                                               | 4.0                                                                                 |                                                                                     | 4.0                                                                                 | 4.0                                                                                 |                                                                                     |
| All-Red Time (s)           | 2.0                                                                               | 2.0                                                                               |                                                                                   | 2.0                                                                               | 2.0                                                                               |                                                                                   | 1.0                                                                               | 1.0                                                                                 |                                                                                     | 1.0                                                                                 | 1.0                                                                                 |                                                                                     |
| Lost Time Adjust (s)       |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                                 |                                                                                     |                                                                                     | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)        |                                                                                   | 6.0                                                                               |                                                                                   |                                                                                   | 6.0                                                                               |                                                                                   |                                                                                   | 5.0                                                                                 |                                                                                     |                                                                                     | 5.0                                                                                 |                                                                                     |
| Lead/Lag                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?         |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Vehicle Extension (s)      | 5.0                                                                               | 5.0                                                                               |                                                                                   | 5.0                                                                               | 5.0                                                                               |                                                                                   | 2.0                                                                               | 2.0                                                                                 |                                                                                     | 2.0                                                                                 | 2.0                                                                                 |                                                                                     |
| Recall Mode                | Max                                                                               | Max                                                                               |                                                                                   | Max                                                                               | Max                                                                               |                                                                                   | None                                                                              | None                                                                                |                                                                                     | None                                                                                | None                                                                                |                                                                                     |
| Act Effect Green (s)       |                                                                                   | 28.1                                                                              |                                                                                   |                                                                                   | 28.1                                                                              |                                                                                   |                                                                                   | 8.0                                                                                 |                                                                                     |                                                                                     | 8.0                                                                                 |                                                                                     |
| Actuated g/C Ratio         |                                                                                   | 0.64                                                                              |                                                                                   |                                                                                   | 0.64                                                                              |                                                                                   |                                                                                   | 0.18                                                                                |                                                                                     |                                                                                     | 0.18                                                                                |                                                                                     |
| v/c Ratio                  |                                                                                   | 0.51                                                                              |                                                                                   |                                                                                   | 0.42                                                                              |                                                                                   |                                                                                   | 0.15                                                                                |                                                                                     |                                                                                     | 0.42                                                                                |                                                                                     |
| Control Delay              |                                                                                   | 8.3                                                                               |                                                                                   |                                                                                   | 6.9                                                                               |                                                                                   |                                                                                   | 13.7                                                                                |                                                                                     |                                                                                     | 14.3                                                                                |                                                                                     |
| Queue Delay                |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                                 |                                                                                     |                                                                                     | 0.0                                                                                 |                                                                                     |
| Total Delay                |                                                                                   | 8.3                                                                               |                                                                                   |                                                                                   | 6.9                                                                               |                                                                                   |                                                                                   | 13.7                                                                                |                                                                                     |                                                                                     | 14.3                                                                                |                                                                                     |



# Lanes, Volumes, Timings

## 6: Cicero Center Road & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| LOS                     |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | B                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| Approach Delay          |                                                                                   | 8.3                                                                               |                                                                                   |                                                                                   | 6.9                                                                               |                                                                                   |                                                                                   | 13.7                                                                                |                                                                                     |                                                                                     | 14.3                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | B                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| Queue Length 50th (ft)  |                                                                                   | 68                                                                                |                                                                                   |                                                                                   | 55                                                                                |                                                                                   |                                                                                   | 8                                                                                   |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Queue Length 95th (ft)  |                                                                                   | 166                                                                               |                                                                                   |                                                                                   | 126                                                                               |                                                                                   |                                                                                   | 20                                                                                  |                                                                                     |                                                                                     | 41                                                                                  |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 503                                                                               |                                                                                   |                                                                                   | 528                                                                               |                                                                                   |                                                                                   | 420                                                                                 |                                                                                     |                                                                                     | 425                                                                                 |                                                                                     |
| Turn Bay Length (ft)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Base Capacity (vph)     |                                                                                   | 1083                                                                              |                                                                                   |                                                                                   | 1197                                                                              |                                                                                   |                                                                                   | 590                                                                                 |                                                                                     |                                                                                     | 533                                                                                 |                                                                                     |
| Starvation Cap Reductn  |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       |                                                                                   | 0.51                                                                              |                                                                                   |                                                                                   | 0.42                                                                              |                                                                                   |                                                                                   | 0.08                                                                                |                                                                                     |                                                                                     | 0.25                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Cycle Length: 50

Actuated Cycle Length: 43.6

Natural Cycle: 40

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.51

Intersection Signal Delay: 8.6

Intersection Capacity Utilization 77.6%

Analysis Period (min) 15

Intersection LOS: A

ICU Level of Service D

Splits and Phases: 6: Cicero Center Road & Route 31

|                                                                                        |  |                                                                                        |
|----------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------|
|  Ø2 |  |  Ø4 |
| 30 s                                                                                   |  | 20 s                                                                                   |
|  Ø6 |  |  Ø8 |
| 30 s                                                                                   |  | 20 s                                                                                   |



# Lanes, Volumes, Timings

## 7: Route 31 & Lakeshore Road (East)

07/05/2022

|                            |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | WBT                                                                               | WBR                                                                               | SBL                                                                               | SBR                                                                               |
| Lane Configurations        |                                                                                   |  |  |                                                                                   |  |                                                                                   |
| Traffic Volume (vph)       | 55                                                                                | 452                                                                               | 404                                                                               | 87                                                                                | 88                                                                                | 33                                                                                |
| Future Volume (vph)        | 55                                                                                | 452                                                                               | 404                                                                               | 87                                                                                | 88                                                                                | 33                                                                                |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Satd. Flow (prot)          | 0                                                                                 | 1876                                                                              | 1836                                                                              | 0                                                                                 | 1748                                                                              | 0                                                                                 |
| Flt Permitted              |                                                                                   | 0.997                                                                             |                                                                                   |                                                                                   | 0.965                                                                             |                                                                                   |
| Satd. Flow (perm)          | 0                                                                                 | 1876                                                                              | 1836                                                                              | 0                                                                                 | 1748                                                                              | 0                                                                                 |
| Link Speed (mph)           |                                                                                   | 55                                                                                | 55                                                                                |                                                                                   | 35                                                                                |                                                                                   |
| Link Distance (ft)         |                                                                                   | 516                                                                               | 592                                                                               |                                                                                   | 420                                                                               |                                                                                   |
| Travel Time (s)            |                                                                                   | 6.4                                                                               | 7.3                                                                               |                                                                                   | 8.2                                                                               |                                                                                   |
| Peak Hour Factor           | 0.89                                                                              | 0.89                                                                              | 0.88                                                                              | 0.88                                                                              | 0.83                                                                              | 0.83                                                                              |
| Growth Factor              | 50%                                                                               | 100%                                                                              | 100%                                                                              | 100%                                                                              | 100%                                                                              | 100%                                                                              |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)      | 0                                                                                 | 539                                                                               | 558                                                                               | 0                                                                                 | 146                                                                               | 0                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment             | Left                                                                              | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Right                                                                             |
| Median Width(ft)           |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 12                                                                                |                                                                                   |
| Link Offset(ft)            |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 |                                                                                   |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                | 16                                                                                |                                                                                   | 16                                                                                |                                                                                   |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (mph)        | 15                                                                                |                                                                                   |                                                                                   | 9                                                                                 | 15                                                                                | 9                                                                                 |
| Sign Control               |                                                                                   | Free                                                                              | Free                                                                              |                                                                                   | Stop                                                                              |                                                                                   |

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 59.9%

ICU Level of Service B

Analysis Period (min) 15



HCM 6th TWSC  
7: Route 31 & Lakeshore Road (East)

07/05/2022

Intersection

| Int Delay, s/veh         | 3.9  |                                                                                   |                                                                                   |      |                                                                                   |      |
|--------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|------|
| Movement                 | EBL  | EBT                                                                               | WBT                                                                               | WBR  | SBL                                                                               | SBR  |
| Lane Configurations      |      |  |  |      |  |      |
| Traffic Vol, veh/h       | 55   | 452                                                                               | 404                                                                               | 87   | 88                                                                                | 33   |
| Future Vol, veh/h        | 55   | 452                                                                               | 404                                                                               | 87   | 88                                                                                | 33   |
| Conflicting Peds, #/hr   | 0    | 0                                                                                 | 0                                                                                 | 0    | 0                                                                                 | 0    |
| Sign Control             | Free | Free                                                                              | Free                                                                              | Free | Stop                                                                              | Stop |
| RT Channelized           | -    | None                                                                              | -                                                                                 | None | -                                                                                 | None |
| Storage Length           | -    | -                                                                                 | -                                                                                 | -    | 0                                                                                 | -    |
| Veh in Median Storage, # | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Grade, %                 | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Peak Hour Factor         | 89   | 89                                                                                | 88                                                                                | 88   | 83                                                                                | 83   |
| Heavy Vehicles, %        | 1    | 1                                                                                 | 1                                                                                 | 1    | 1                                                                                 | 1    |
| Mvmt Flow                | 31   | 508                                                                               | 459                                                                               | 99   | 106                                                                               | 40   |

| Major/Minor          | Major1 | Major2 | Minor2 |
|----------------------|--------|--------|--------|
| Conflicting Flow All | 558    | 0      | 0      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |
| Critical Hdwy        | 4.11   | -      | -      |
| Critical Hdwy Stg 1  | -      | -      | -      |
| Critical Hdwy Stg 2  | -      | -      | -      |
| Follow-up Hdwy       | 2.209  | -      | -      |
| Pot Cap-1 Maneuver   | 1018   | -      | -      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |
| Platoon blocked, %   | -      | -      | -      |
| Mov Cap-1 Maneuver   | 1018   | -      | -      |
| Mov Cap-2 Maneuver   | -      | -      | -      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |

| Approach             | EB  | WB | SB   |
|----------------------|-----|----|------|
| HCM Control Delay, s | 0.5 | 0  | 31.4 |
| HCM LOS              |     |    | D    |

| Minor Lane/Major Mvmt | EBL  | EBT | WBT | WBR | SBLn1 |
|-----------------------|------|-----|-----|-----|-------|
| Capacity (veh/h)      | 1018 | -   | -   | -   | 278   |
| HCM Lane V/C Ratio    | 0.03 | -   | -   | -   | 0.524 |
| HCM Control Delay (s) | 8.6  | 0   | -   | -   | 31.4  |
| HCM Lane LOS          | A    | A   | -   | -   | D     |
| HCM 95th %tile Q(veh) | 0.1  | -   | -   | -   | 2.8   |



# Lanes, Volumes, Timings

## 8: Thompson Road & South Bay Road

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |  |  |                                                                                   |  |  |                                                                                   |                                                                                   |  |  |                                                                                     |  |  |
| Traffic Volume (vph)       | 216                                                                               | 382                                                                               | 3                                                                                 | 178                                                                               | 343                                                                               | 16                                                                                | 8                                                                                 | 151                                                                                 | 213                                                                                 | 16                                                                                  | 155                                                                                 | 175                                                                                 |
| Future Volume (vph)        | 216                                                                               | 382                                                                               | 3                                                                                 | 178                                                                               | 343                                                                               | 16                                                                                | 8                                                                                 | 151                                                                                 | 213                                                                                 | 16                                                                                  | 155                                                                                 | 175                                                                                 |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 300                                                                               |                                                                                   | 0                                                                                 | 250                                                                               |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                     | 210                                                                                 | 0                                                                                   |                                                                                     | 600                                                                                 |
| Storage Lanes              | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                     | 1                                                                                   | 0                                                                                   |                                                                                     | 1                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 1787                                                                              | 1879                                                                              | 0                                                                                 | 1787                                                                              | 1868                                                                              | 0                                                                                 | 0                                                                                 | 1877                                                                                | 1599                                                                                | 0                                                                                   | 1872                                                                                | 1599                                                                                |
| Flt Permitted              | 0.300                                                                             |                                                                                   |                                                                                   | 0.288                                                                             |                                                                                   |                                                                                   |                                                                                   | 0.983                                                                               |                                                                                     |                                                                                     | 0.964                                                                               |                                                                                     |
| Satd. Flow (perm)          | 564                                                                               | 1879                                                                              | 0                                                                                 | 542                                                                               | 1868                                                                              | 0                                                                                 | 0                                                                                 | 1849                                                                                | 1599                                                                                | 0                                                                                   | 1813                                                                                | 1599                                                                                |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   | 1                                                                                 |                                                                                   |                                                                                   | 3                                                                                 |                                                                                   |                                                                                   |                                                                                     | 188                                                                                 |                                                                                     |                                                                                     | 190                                                                                 |
| Link Speed (mph)           |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 45                                                                                  |                                                                                     |                                                                                     | 45                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 1324                                                                              |                                                                                   |                                                                                   | 1155                                                                              |                                                                                   |                                                                                   | 1095                                                                                |                                                                                     |                                                                                     | 1033                                                                                |                                                                                     |
| Travel Time (s)            |                                                                                   | 20.1                                                                              |                                                                                   |                                                                                   | 17.5                                                                              |                                                                                   |                                                                                   | 16.6                                                                                |                                                                                     |                                                                                     | 15.7                                                                                |                                                                                     |
| Peak Hour Factor           | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.89                                                                              | 0.89                                                                              | 0.89                                                                              | 0.86                                                                              | 0.86                                                                                | 0.86                                                                                | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 232                                                                               | 414                                                                               | 0                                                                                 | 200                                                                               | 403                                                                               | 0                                                                                 | 0                                                                                 | 185                                                                                 | 248                                                                                 | 0                                                                                   | 185                                                                                 | 190                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                             | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                  | pm+ov                                                                               | Perm                                                                                | NA                                                                                  | pm+ov                                                                               |
| Protected Phases           | 7                                                                                 | 4                                                                                 |                                                                                   | 3                                                                                 | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                   | 3                                                                                   |                                                                                     | 6                                                                                   | 7                                                                                   |
| Permitted Phases           | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                 |                                                                                     | 2                                                                                   | 6                                                                                   |                                                                                     | 6                                                                                   |
| Detector Phase             | 7                                                                                 | 4                                                                                 |                                                                                   | 3                                                                                 | 8                                                                                 |                                                                                   | 2                                                                                 | 2                                                                                   | 3                                                                                   | 6                                                                                   | 6                                                                                   | 7                                                                                   |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 5.0                                                                               | 10.0                                                                              |                                                                                   | 5.0                                                                               | 5.0                                                                               |                                                                                   | 10.0                                                                              | 10.0                                                                                | 5.0                                                                                 | 10.0                                                                                | 10.0                                                                                | 5.0                                                                                 |
| Minimum Split (s)          | 12.0                                                                              | 17.0                                                                              |                                                                                   | 12.0                                                                              | 12.0                                                                              |                                                                                   | 16.5                                                                              | 16.5                                                                                | 12.0                                                                                | 16.5                                                                                | 16.5                                                                                | 12.0                                                                                |
| Total Split (s)            | 15.0                                                                              | 30.0                                                                              |                                                                                   | 15.0                                                                              | 30.0                                                                              |                                                                                   | 30.0                                                                              | 30.0                                                                                | 15.0                                                                                | 30.0                                                                                | 30.0                                                                                | 15.0                                                                                |
| Total Split (%)            | 20.0%                                                                             | 40.0%                                                                             |                                                                                   | 20.0%                                                                             | 40.0%                                                                             |                                                                                   | 40.0%                                                                             | 40.0%                                                                               | 20.0%                                                                               | 40.0%                                                                               | 40.0%                                                                               | 20.0%                                                                               |
| Maximum Green (s)          | 8.0                                                                               | 23.0                                                                              |                                                                                   | 8.0                                                                               | 23.0                                                                              |                                                                                   | 23.5                                                                              | 23.5                                                                                | 8.0                                                                                 | 23.5                                                                                | 23.5                                                                                | 8.0                                                                                 |
| Yellow Time (s)            | 4.0                                                                               | 4.0                                                                               |                                                                                   | 4.0                                                                               | 4.0                                                                               |                                                                                   | 3.5                                                                               | 3.5                                                                                 | 4.0                                                                                 | 3.5                                                                                 | 3.5                                                                                 | 4.0                                                                                 |
| All-Red Time (s)           | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |
| Lost Time Adjust (s)       | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                                 | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |
| Total Lost Time (s)        | 7.0                                                                               | 7.0                                                                               |                                                                                   | 7.0                                                                               | 7.0                                                                               |                                                                                   |                                                                                   | 6.5                                                                                 | 7.0                                                                                 |                                                                                     | 6.5                                                                                 | 7.0                                                                                 |
| Lead/Lag                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                              | Lag                                                                               |                                                                                   |                                                                                   |                                                                                     | Lead                                                                                |                                                                                     |                                                                                     | Lead                                                                                |
| Lead-Lag Optimize?         | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                               | Yes                                                                               |                                                                                   |                                                                                   |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Vehicle Extension (s)      | 3.0                                                                               | 2.0                                                                               |                                                                                   | 3.0                                                                               | 2.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |
| Recall Mode                | None                                                                              | Min                                                                               |                                                                                   | None                                                                              | Min                                                                               |                                                                                   | Max                                                                               | Max                                                                                 | None                                                                                | Max                                                                                 | Max                                                                                 | None                                                                                |
| Act Effct Green (s)        | 27.0                                                                              | 19.0                                                                              |                                                                                   | 26.7                                                                              | 18.9                                                                              |                                                                                   |                                                                                   | 23.6                                                                                | 38.0                                                                                |                                                                                     | 23.6                                                                                | 38.1                                                                                |
| Actuated g/C Ratio         | 0.38                                                                              | 0.27                                                                              |                                                                                   | 0.38                                                                              | 0.27                                                                              |                                                                                   |                                                                                   | 0.33                                                                                | 0.54                                                                                |                                                                                     | 0.33                                                                                | 0.54                                                                                |
| v/c Ratio                  | 0.66                                                                              | 0.82                                                                              |                                                                                   | 0.59                                                                              | 0.81                                                                              |                                                                                   |                                                                                   | 0.30                                                                                | 0.26                                                                                |                                                                                     | 0.31                                                                                | 0.20                                                                                |
| Control Delay              | 21.9                                                                              | 38.9                                                                              |                                                                                   | 18.8                                                                              | 37.7                                                                              |                                                                                   |                                                                                   | 20.4                                                                                | 3.8                                                                                 |                                                                                     | 20.5                                                                                | 2.3                                                                                 |



# Lanes, Volumes, Timings

## 8: Thompson Road & South Bay Road

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Queue Delay             | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                                 | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |
| Total Delay             | 21.9                                                                              | 38.9                                                                              |                                                                                   | 18.8                                                                              | 37.7                                                                              |                                                                                   |                                                                                   | 20.4                                                                                | 3.8                                                                                 |                                                                                     | 20.5                                                                                | 2.3                                                                                 |
| LOS                     | C                                                                                 | D                                                                                 |                                                                                   | B                                                                                 | D                                                                                 |                                                                                   |                                                                                   | C                                                                                   | A                                                                                   |                                                                                     | C                                                                                   | A                                                                                   |
| Approach Delay          |                                                                                   | 32.8                                                                              |                                                                                   |                                                                                   | 31.4                                                                              |                                                                                   |                                                                                   | 10.9                                                                                |                                                                                     |                                                                                     | 11.3                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | B                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 58                                                                                | 169                                                                               |                                                                                   | 49                                                                                | 163                                                                               |                                                                                   |                                                                                   | 61                                                                                  | 12                                                                                  |                                                                                     | 61                                                                                  | 0                                                                                   |
| Queue Length 95th (ft)  | #100                                                                              | #272                                                                              |                                                                                   | 84                                                                                | 255                                                                               |                                                                                   |                                                                                   | 110                                                                                 | 43                                                                                  |                                                                                     | 116                                                                                 | 29                                                                                  |
| Internal Link Dist (ft) |                                                                                   | 1244                                                                              |                                                                                   |                                                                                   | 1075                                                                              |                                                                                   |                                                                                   | 1015                                                                                |                                                                                     |                                                                                     | 953                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 300                                                                               |                                                                                   |                                                                                   | 250                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 210                                                                                 |                                                                                     |                                                                                     | 600                                                                                 |
| Base Capacity (vph)     | 352                                                                               | 611                                                                               |                                                                                   | 345                                                                               | 609                                                                               |                                                                                   |                                                                                   | 613                                                                                 | 945                                                                                 |                                                                                     | 602                                                                                 | 946                                                                                 |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |
| Reduced v/c Ratio       | 0.66                                                                              | 0.68                                                                              |                                                                                   | 0.58                                                                              | 0.66                                                                              |                                                                                   |                                                                                   | 0.30                                                                                | 0.26                                                                                |                                                                                     | 0.31                                                                                | 0.20                                                                                |

### Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 71

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 23.9

Intersection LOS: C

Intersection Capacity Utilization 69.5%

ICU Level of Service C

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

### Splits and Phases: 8: Thompson Road & South Bay Road

|                                                                                        |  |                                                                                        |  |                                                                                        |  |
|----------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------|--|
|  Ø2 |  |  Ø3 |  |  Ø4 |  |
| 30 s                                                                                   |  | 15 s                                                                                   |  | 30 s                                                                                   |  |
|  Ø6 |  |  Ø7 |  |  Ø8 |  |
| 30 s                                                                                   |  | 15 s                                                                                   |  | 30 s                                                                                   |  |



# Lanes, Volumes, Timings

## 9: Lakeshore Road & Mudd Mill Road

07/05/2022

|                            |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | WBT                                                                               | WBR                                                                               | SBL                                                                               | SBR                                                                               |
| Lane Configurations        |                                                                                   |  |  |                                                                                   |  |                                                                                   |
| Traffic Volume (vph)       | 44                                                                                | 323                                                                               | 251                                                                               | 133                                                                               | 143                                                                               | 34                                                                                |
| Future Volume (vph)        | 44                                                                                | 323                                                                               | 251                                                                               | 133                                                                               | 143                                                                               | 34                                                                                |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Satd. Flow (prot)          | 0                                                                                 | 1870                                                                              | 1793                                                                              | 0                                                                                 | 1761                                                                              | 0                                                                                 |
| Flt Permitted              |                                                                                   | 0.994                                                                             |                                                                                   |                                                                                   | 0.961                                                                             |                                                                                   |
| Satd. Flow (perm)          | 0                                                                                 | 1870                                                                              | 1793                                                                              | 0                                                                                 | 1761                                                                              | 0                                                                                 |
| Link Speed (mph)           |                                                                                   | 35                                                                                | 35                                                                                |                                                                                   | 35                                                                                |                                                                                   |
| Link Distance (ft)         |                                                                                   | 753                                                                               | 701                                                                               |                                                                                   | 545                                                                               |                                                                                   |
| Travel Time (s)            |                                                                                   | 14.7                                                                              | 13.7                                                                              |                                                                                   | 10.6                                                                              |                                                                                   |
| Peak Hour Factor           | 0.82                                                                              | 0.82                                                                              | 0.97                                                                              | 0.97                                                                              | 0.85                                                                              | 0.85                                                                              |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)      | 0                                                                                 | 448                                                                               | 396                                                                               | 0                                                                                 | 208                                                                               | 0                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment             | Left                                                                              | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Right                                                                             |
| Median Width(ft)           |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 12                                                                                |                                                                                   |
| Link Offset(ft)            |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 |                                                                                   |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                | 16                                                                                |                                                                                   | 16                                                                                |                                                                                   |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (mph)        | 15                                                                                |                                                                                   |                                                                                   | 9                                                                                 | 15                                                                                | 9                                                                                 |
| Sign Control               |                                                                                   | Free                                                                              | Free                                                                              |                                                                                   | Stop                                                                              |                                                                                   |

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 60.7%

ICU Level of Service B

Analysis Period (min) 15



HCM 6th TWSC  
9: Lakeshore Road & Mudd Mill Road

07/05/2022

Intersection

Int Delay, s/veh 6

| Movement                 | EBL  | EBT                                                                               | WBT                                                                               | WBR  | SBL                                                                               | SBR  |
|--------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|------|
| Lane Configurations      |      |  |  |      |  |      |
| Traffic Vol, veh/h       | 44   | 323                                                                               | 251                                                                               | 133  | 143                                                                               | 34   |
| Future Vol, veh/h        | 44   | 323                                                                               | 251                                                                               | 133  | 143                                                                               | 34   |
| Conflicting Peds, #/hr   | 0    | 0                                                                                 | 0                                                                                 | 0    | 0                                                                                 | 0    |
| Sign Control             | Free | Free                                                                              | Free                                                                              | Free | Stop                                                                              | Stop |
| RT Channelized           | -    | None                                                                              | -                                                                                 | None | -                                                                                 | None |
| Storage Length           | -    | -                                                                                 | -                                                                                 | -    | 0                                                                                 | -    |
| Veh in Median Storage, # | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Grade, %                 | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Peak Hour Factor         | 82   | 82                                                                                | 97                                                                                | 97   | 85                                                                                | 85   |
| Heavy Vehicles, %        | 1    | 1                                                                                 | 1                                                                                 | 1    | 1                                                                                 | 1    |
| Mvmt Flow                | 54   | 394                                                                               | 259                                                                               | 137  | 168                                                                               | 40   |

| Major/Minor          | Major1 | Major2 | Minor2 |
|----------------------|--------|--------|--------|
| Conflicting Flow All | 396    | 0      | 0      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |
| Critical Hdwy        | 4.11   | -      | -      |
| Critical Hdwy Stg 1  | -      | -      | -      |
| Critical Hdwy Stg 2  | -      | -      | -      |
| Follow-up Hdwy       | 2.209  | -      | -      |
| Pot Cap-1 Maneuver   | 1168   | -      | -      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |
| Platoon blocked, %   | -      | -      | -      |
| Mov Cap-1 Maneuver   | 1168   | -      | -      |
| Mov Cap-2 Maneuver   | -      | -      | -      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |

| Approach             | EB | WB | SB |
|----------------------|----|----|----|
| HCM Control Delay, s | 1  | 0  | 28 |
| HCM LOS              |    |    | D  |

| Minor Lane/Major Mvmt | EBL   | EBT | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-----|-------|
| Capacity (veh/h)      | 1168  | -   | -   | -   | 359   |
| HCM Lane V/C Ratio    | 0.046 | -   | -   | -   | 0.58  |
| HCM Control Delay (s) | 8.2   | 0   | -   | -   | 28    |
| HCM Lane LOS          | A     | A   | -   | -   | D     |
| HCM 95th %tile Q(veh) | 0.1   | -   | -   | -   | 3.5   |



Lanes, Volumes, Timings  
10: South Bay Road & Lakeshore Road

07/05/2022

|                            |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                 | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations        |  |                                                                                   |                                                                                   |  |  |                                                                                   |
| Traffic Volume (vph)       | 296                                                                               | 7                                                                                 | 292                                                                               | 250                                                                               | 13                                                                                | 308                                                                               |
| Future Volume (vph)        | 296                                                                               | 7                                                                                 | 292                                                                               | 250                                                                               | 13                                                                                | 308                                                                               |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Satd. Flow (prot)          | 1839                                                                              | 0                                                                                 | 0                                                                                 | 1730                                                                              | 1586                                                                              | 0                                                                                 |
| Flt Permitted              |                                                                                   |                                                                                   |                                                                                   | 0.974                                                                             | 0.998                                                                             |                                                                                   |
| Satd. Flow (perm)          | 1839                                                                              | 0                                                                                 | 0                                                                                 | 1730                                                                              | 1586                                                                              | 0                                                                                 |
| Link Speed (mph)           | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                | 45                                                                                |                                                                                   |
| Link Distance (ft)         | 538                                                                               |                                                                                   |                                                                                   | 300                                                                               | 501                                                                               |                                                                                   |
| Travel Time (s)            | 10.5                                                                              |                                                                                   |                                                                                   | 5.8                                                                               | 7.6                                                                               |                                                                                   |
| Confl. Peds. (#/hr)        |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 2                                                                                 |
| Peak Hour Factor           | 0.93                                                                              | 0.93                                                                              | 0.89                                                                              | 0.89                                                                              | 0.92                                                                              | 0.92                                                                              |
| Heavy Vehicles (%)         | 3%                                                                                | 3%                                                                                | 7%                                                                                | 7%                                                                                | 4%                                                                                | 4%                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)      | 326                                                                               | 0                                                                                 | 0                                                                                 | 609                                                                               | 349                                                                               | 0                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment             | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Left                                                                              | Right                                                                             |
| Median Width(ft)           | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 | 12                                                                                |                                                                                   |
| Link Offset(ft)            | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |
| Crosswalk Width(ft)        | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                | 16                                                                                |                                                                                   |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (mph)        |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 15                                                                                | 9                                                                                 |
| Sign Control               | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              | Stop                                                                              |                                                                                   |

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 75.3%

ICU Level of Service D

Analysis Period (min) 15



HCM 6th TWSC  
10: South Bay Road & Lakeshore Road

07/05/2022

Intersection

| Int Delay, s/veh         | 7.5                                                                               |      |      |                                                                                   |                                                                                   |      |
|--------------------------|-----------------------------------------------------------------------------------|------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|
| Movement                 | EBT                                                                               | EBR  | WBL  | WBT                                                                               | NBL                                                                               | NBR  |
| Lane Configurations      |  |      |      |  |  |      |
| Traffic Vol, veh/h       | 296                                                                               | 7    | 292  | 250                                                                               | 13                                                                                | 308  |
| Future Vol, veh/h        | 296                                                                               | 7    | 292  | 250                                                                               | 13                                                                                | 308  |
| Conflicting Peds, #/hr   | 0                                                                                 | 0    | 0    | 0                                                                                 | 0                                                                                 | 2    |
| Sign Control             | Free                                                                              | Free | Free | Free                                                                              | Stop                                                                              | Stop |
| RT Channelized           | -                                                                                 | None | -    | None                                                                              | -                                                                                 | None |
| Storage Length           | -                                                                                 | -    | -    | -                                                                                 | 0                                                                                 | -    |
| Veh in Median Storage, # | 0                                                                                 | -    | -    | 0                                                                                 | 0                                                                                 | -    |
| Grade, %                 | 0                                                                                 | -    | -    | 0                                                                                 | 0                                                                                 | -    |
| Peak Hour Factor         | 93                                                                                | 93   | 89   | 89                                                                                | 92                                                                                | 92   |
| Heavy Vehicles, %        | 3                                                                                 | 3    | 7    | 7                                                                                 | 4                                                                                 | 4    |
| Mvmt Flow                | 318                                                                               | 8    | 328  | 281                                                                               | 14                                                                                | 335  |

| Major/Minor          | Major1 | Major2 | Minor1 |
|----------------------|--------|--------|--------|
| Conflicting Flow All | 0      | 0      | 326    |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |
| Critical Hdwy        | -      | -      | 4.17   |
| Critical Hdwy Stg 1  | -      | -      | -      |
| Critical Hdwy Stg 2  | -      | -      | -      |
| Follow-up Hdwy       | -      | -      | 2.263  |
| Pot Cap-1 Maneuver   | -      | -      | 1206   |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |
| Platoon blocked, %   | -      | -      | -      |
| Mov Cap-1 Maneuver   | -      | -      | 1206   |
| Mov Cap-2 Maneuver   | -      | -      | -      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |

| Approach             | EB | WB  | NB   |
|----------------------|----|-----|------|
| HCM Control Delay, s | 0  | 4.9 | 19.1 |
| HCM LOS              |    |     | C    |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL   | WBT |
|-----------------------|-------|-----|-----|-------|-----|
| Capacity (veh/h)      | 599   | -   | -   | 1206  | -   |
| HCM Lane V/C Ratio    | 0.582 | -   | -   | 0.272 | -   |
| HCM Control Delay (s) | 19.1  | -   | -   | 9.1   | 0   |
| HCM Lane LOS          | C     | -   | -   | A     | A   |
| HCM 95th %tile Q(veh) | 3.7   | -   | -   | 1.1   | -   |



# Lanes, Volumes, Timings

## 11: Cicero Center Road/Van Antwerp Drive & Lakeshore Road

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (vph)       | 1                                                                                 | 287                                                                               | 47                                                                                | 7                                                                                 | 238                                                                               | 3                                                                                 | 53                                                                                | 1                                                                                   | 17                                                                                  | 0                                                                                   | 1                                                                                   | 5                                                                                   |
| Future Volume (vph)        | 1                                                                                 | 287                                                                               | 47                                                                                | 7                                                                                 | 238                                                                               | 3                                                                                 | 53                                                                                | 1                                                                                   | 17                                                                                  | 0                                                                                   | 1                                                                                   | 5                                                                                   |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Satd. Flow (prot)          | 0                                                                                 | 1827                                                                              | 0                                                                                 | 0                                                                                 | 1857                                                                              | 0                                                                                 | 0                                                                                 | 1738                                                                                | 0                                                                                   | 0                                                                                   | 1652                                                                                | 0                                                                                   |
| Flt Permitted              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.999                                                                             |                                                                                   |                                                                                   | 0.964                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Satd. Flow (perm)          | 0                                                                                 | 1827                                                                              | 0                                                                                 | 0                                                                                 | 1857                                                                              | 0                                                                                 | 0                                                                                 | 1738                                                                                | 0                                                                                   | 0                                                                                   | 1652                                                                                | 0                                                                                   |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 55                                                                                  |                                                                                     |                                                                                     | 30                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 557                                                                               |                                                                                   |                                                                                   | 543                                                                               |                                                                                   |                                                                                   | 388                                                                                 |                                                                                     |                                                                                     | 295                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 10.9                                                                              |                                                                                   |                                                                                   | 10.6                                                                              |                                                                                   |                                                                                   | 4.8                                                                                 |                                                                                     |                                                                                     | 6.7                                                                                 |                                                                                     |
| Confl. Peds. (#/hr)        | 1                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1                                                                                 | 1                                                                                 |                                                                                     | 1                                                                                   | 1                                                                                   |                                                                                     | 1                                                                                   |
| Peak Hour Factor           | 0.89                                                                              | 0.89                                                                              | 0.89                                                                              | 0.85                                                                              | 0.85                                                                              | 0.85                                                                              | 0.63                                                                              | 0.63                                                                                | 0.63                                                                                | 0.50                                                                                | 0.50                                                                                | 0.50                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 0                                                                                 | 376                                                                               | 0                                                                                 | 0                                                                                 | 292                                                                               | 0                                                                                 | 0                                                                                 | 113                                                                                 | 0                                                                                   | 0                                                                                   | 12                                                                                  | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Sign Control               |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Stop                                                                                |                                                                                     |                                                                                     | Stop                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 35.9%

ICU Level of Service A

Analysis Period (min) 15



## Intersection

Int Delay, s/veh 2.6

| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations      |      | ↔    |      |      | ↔    |      |      | ↔    |      |      | ↔    |      |
| Traffic Vol, veh/h       | 1    | 287  | 47   | 7    | 238  | 3    | 53   | 1    | 17   | 0    | 1    | 5    |
| Future Vol, veh/h        | 1    | 287  | 47   | 7    | 238  | 3    | 53   | 1    | 17   | 0    | 1    | 5    |
| Conflicting Peds, #/hr   | 1    | 0    | 0    | 0    | 0    | 1    | 1    | 0    | 1    | 1    | 0    | 1    |
| Sign Control             | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -    | None |
| Storage Length           | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 89   | 89   | 89   | 85   | 85   | 85   | 63   | 63   | 63   | 50   | 50   | 50   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 1    | 322  | 53   | 8    | 280  | 4    | 84   | 2    | 27   | 0    | 2    | 10   |

| Major/Minor          | Major1 |   | Major2 |       | Minor1 |   | Minor2 |       |       |       |       |       |
|----------------------|--------|---|--------|-------|--------|---|--------|-------|-------|-------|-------|-------|
| Conflicting Flow All | 285    | 0 | 0      | 375   | 0      | 0 | 656    | 652   | 350   | 665   | 676   | 284   |
| Stage 1              | -      | - | -      | -     | -      | - | 351    | 351   | -     | 299   | 299   | -     |
| Stage 2              | -      | - | -      | -     | -      | - | 305    | 301   | -     | 366   | 377   | -     |
| Critical Hdwy        | 4.12   | - | -      | 4.12  | -      | - | 7.12   | 6.52  | 6.22  | 7.12  | 6.52  | 6.22  |
| Critical Hdwy Stg 1  | -      | - | -      | -     | -      | - | 6.12   | 5.52  | -     | 6.12  | 5.52  | -     |
| Critical Hdwy Stg 2  | -      | - | -      | -     | -      | - | 6.12   | 5.52  | -     | 6.12  | 5.52  | -     |
| Follow-up Hdwy       | 2.218  | - | -      | 2.218 | -      | - | 3.518  | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver   | 1277   | - | -      | 1183  | -      | - | 379    | 387   | 693   | 374   | 375   | 755   |
| Stage 1              | -      | - | -      | -     | -      | - | 666    | 632   | -     | 710   | 666   | -     |
| Stage 2              | -      | - | -      | -     | -      | - | 705    | 665   | -     | 653   | 616   | -     |
| Platoon blocked, %   | -      | - | -      | -     | -      | - | -      | -     | -     | -     | -     | -     |
| Mov Cap-1 Maneuver   | 1276   | - | -      | 1183  | -      | - | 370    | 383   | 692   | 355   | 371   | 754   |
| Mov Cap-2 Maneuver   | -      | - | -      | -     | -      | - | 370    | 383   | -     | 355   | 371   | -     |
| Stage 1              | -      | - | -      | -     | -      | - | 665    | 631   | -     | 709   | 660   | -     |
| Stage 2              | -      | - | -      | -     | -      | - | 687    | 659   | -     | 625   | 615   | -     |

| Approach             | EB | WB  | NB   | SB   |
|----------------------|----|-----|------|------|
| HCM Control Delay, s | 0  | 0.2 | 16.8 | 10.7 |
| HCM LOS              |    |     | C    | B    |

| Minor Lane/Major Mvmt | NBLn1 | EBL   | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 417   | 1276  | -   | -   | 1183  | -   | -   | 643   |
| HCM Lane V/C Ratio    | 0.27  | 0.001 | -   | -   | 0.007 | -   | -   | 0.019 |
| HCM Control Delay (s) | 16.8  | 7.8   | 0   | -   | 8.1   | 0   | -   | 10.7  |
| HCM Lane LOS          | C     | A     | A   | -   | A     | A   | -   | B     |
| HCM 95th %tile Q(veh) | 1.1   | 0     | -   | -   | 0     | -   | -   | 0.1   |



# Lanes, Volumes, Timings

## 12: Lakeshore Road & West Site Access

07/05/2022

|                            |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | WBT                                                                               | WBR                                                                               | SBL                                                                               | SBR                                                                               |
| Lane Configurations        |                                                                                   |  |  |                                                                                   |  |                                                                                   |
| Traffic Volume (vph)       | 15                                                                                | 589                                                                               | 527                                                                               | 5                                                                                 | 4                                                                                 | 15                                                                                |
| Future Volume (vph)        | 15                                                                                | 589                                                                               | 527                                                                               | 5                                                                                 | 4                                                                                 | 15                                                                                |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Satd. Flow (prot)          | 0                                                                                 | 1844                                                                              | 1775                                                                              | 0                                                                                 | 1648                                                                              | 0                                                                                 |
| Flt Permitted              |                                                                                   | 0.999                                                                             |                                                                                   |                                                                                   | 0.991                                                                             |                                                                                   |
| Satd. Flow (perm)          | 0                                                                                 | 1844                                                                              | 1775                                                                              | 0                                                                                 | 1648                                                                              | 0                                                                                 |
| Link Speed (mph)           |                                                                                   | 35                                                                                | 35                                                                                |                                                                                   | 30                                                                                |                                                                                   |
| Link Distance (ft)         |                                                                                   | 300                                                                               | 359                                                                               |                                                                                   | 354                                                                               |                                                                                   |
| Travel Time (s)            |                                                                                   | 5.8                                                                               | 7.0                                                                               |                                                                                   | 8.0                                                                               |                                                                                   |
| Peak Hour Factor           | 0.93                                                                              | 0.93                                                                              | 0.89                                                                              | 0.89                                                                              | 0.90                                                                              | 0.90                                                                              |
| Heavy Vehicles (%)         | 1%                                                                                | 3%                                                                                | 7%                                                                                | 1%                                                                                | 1%                                                                                | 2%                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)      | 0                                                                                 | 649                                                                               | 598                                                                               | 0                                                                                 | 21                                                                                | 0                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment             | Left                                                                              | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Right                                                                             |
| Median Width(ft)           |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 12                                                                                |                                                                                   |
| Link Offset(ft)            |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 |                                                                                   |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                | 16                                                                                |                                                                                   | 16                                                                                |                                                                                   |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (mph)        | 15                                                                                |                                                                                   |                                                                                   | 9                                                                                 | 15                                                                                | 9                                                                                 |
| Sign Control               |                                                                                   | Free                                                                              | Free                                                                              |                                                                                   | Stop                                                                              |                                                                                   |

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 53.1%

ICU Level of Service A

Analysis Period (min) 15



HCM 6th TWSC  
12: Lakeshore Road & West Site Access

07/05/2022

Intersection

Int Delay, s/veh 0.4

| Movement                 | EBL  | EBT                                                                               | WBT                                                                               | WBR  | SBL                                                                               | SBR  |
|--------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|------|
| Lane Configurations      |      |  |  |      |  |      |
| Traffic Vol, veh/h       | 15   | 589                                                                               | 527                                                                               | 5    | 4                                                                                 | 15   |
| Future Vol, veh/h        | 15   | 589                                                                               | 527                                                                               | 5    | 4                                                                                 | 15   |
| Conflicting Peds, #/hr   | 0    | 0                                                                                 | 0                                                                                 | 0    | 0                                                                                 | 0    |
| Sign Control             | Free | Free                                                                              | Free                                                                              | Free | Stop                                                                              | Stop |
| RT Channelized           | -    | None                                                                              | -                                                                                 | None | -                                                                                 | None |
| Storage Length           | -    | -                                                                                 | -                                                                                 | -    | 0                                                                                 | -    |
| Veh in Median Storage, # | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Grade, %                 | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Peak Hour Factor         | 93   | 93                                                                                | 89                                                                                | 89   | 90                                                                                | 90   |
| Heavy Vehicles, %        | 1    | 3                                                                                 | 7                                                                                 | 1    | 1                                                                                 | 2    |
| Mvmt Flow                | 16   | 633                                                                               | 592                                                                               | 6    | 4                                                                                 | 17   |

| Major/Minor          | Major1 | Major2 | Minor2        |
|----------------------|--------|--------|---------------|
| Conflicting Flow All | 598    | 0      | 0 1260 595    |
| Stage 1              | -      | -      | - 595 -       |
| Stage 2              | -      | -      | - 665 -       |
| Critical Hdwy        | 4.11   | -      | - 6.41 6.22   |
| Critical Hdwy Stg 1  | -      | -      | - 5.41 -      |
| Critical Hdwy Stg 2  | -      | -      | - 5.41 -      |
| Follow-up Hdwy       | 2.209  | -      | - 3.509 3.318 |
| Pot Cap-1 Maneuver   | 984    | -      | - 189 504     |
| Stage 1              | -      | -      | - 553 -       |
| Stage 2              | -      | -      | - 513 -       |
| Platoon blocked, %   | -      | -      | -             |
| Mov Cap-1 Maneuver   | 984    | -      | - 184 504     |
| Mov Cap-2 Maneuver   | -      | -      | - 184 -       |
| Stage 1              | -      | -      | - 539 -       |
| Stage 2              | -      | -      | - 513 -       |

| Approach             | EB  | WB | SB   |
|----------------------|-----|----|------|
| HCM Control Delay, s | 0.2 | 0  | 15.3 |
| HCM LOS              |     |    | C    |

| Minor Lane/Major Mvmt | EBL   | EBT | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-----|-------|
| Capacity (veh/h)      | 984   | -   | -   | -   | 369   |
| HCM Lane V/C Ratio    | 0.016 | -   | -   | -   | 0.057 |
| HCM Control Delay (s) | 8.7   | 0   | -   | -   | 15.3  |
| HCM Lane LOS          | A     | A   | -   | -   | C     |
| HCM 95th %tile Q(veh) | 0.1   | -   | -   | -   | 0.2   |



# Lanes, Volumes, Timings

## 13: Middle Site Access & Lakeshore Road

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (vph)       | 58                                                                                | 515                                                                               | 20                                                                                | 2                                                                                 | 459                                                                               | 12                                                                                | 18                                                                                | 0                                                                                   | 2                                                                                   | 12                                                                                  | 0                                                                                   | 55                                                                                  |
| Future Volume (vph)        | 58                                                                                | 515                                                                               | 20                                                                                | 2                                                                                 | 459                                                                               | 12                                                                                | 18                                                                                | 0                                                                                   | 2                                                                                   | 12                                                                                  | 0                                                                                   | 55                                                                                  |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Satd. Flow (prot)          | 0                                                                                 | 1831                                                                              | 0                                                                                 | 0                                                                                 | 1773                                                                              | 0                                                                                 | 0                                                                                 | 1779                                                                                | 0                                                                                   | 0                                                                                   | 1657                                                                                | 0                                                                                   |
| Flt Permitted              |                                                                                   | 0.995                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.957                                                                               |                                                                                     |                                                                                     | 0.991                                                                               |                                                                                     |
| Satd. Flow (perm)          | 0                                                                                 | 1831                                                                              | 0                                                                                 | 0                                                                                 | 1773                                                                              | 0                                                                                 | 0                                                                                 | 1779                                                                                | 0                                                                                   | 0                                                                                   | 1657                                                                                | 0                                                                                   |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 30                                                                                  |                                                                                     |                                                                                     | 30                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 359                                                                               |                                                                                   |                                                                                   | 475                                                                               |                                                                                   |                                                                                   | 333                                                                                 |                                                                                     |                                                                                     | 341                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 7.0                                                                               |                                                                                   |                                                                                   | 9.3                                                                               |                                                                                   |                                                                                   | 7.6                                                                                 |                                                                                     |                                                                                     | 7.8                                                                                 |                                                                                     |
| Peak Hour Factor           | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.89                                                                              | 0.89                                                                              | 0.89                                                                              | 0.90                                                                              | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                |
| Heavy Vehicles (%)         | 1%                                                                                | 3%                                                                                | 1%                                                                                | 1%                                                                                | 7%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 0                                                                                 | 638                                                                               | 0                                                                                 | 0                                                                                 | 531                                                                               | 0                                                                                 | 0                                                                                 | 22                                                                                  | 0                                                                                   | 0                                                                                   | 74                                                                                  | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Sign Control               |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Stop                                                                                |                                                                                     |                                                                                     | Stop                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 70.7%

ICU Level of Service C

Analysis Period (min) 15



HCM 6th TWSC  
13: Middle Site Access & Lakeshore Road

07/05/2022

Intersection

|                          |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 2.1  |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      | ↔    |      |      | ↔    |      |      | ↔    |      |      | ↔    |      |
| Traffic Vol, veh/h       | 58   | 515  | 20   | 2    | 459  | 12   | 18   | 0    | 2    | 12   | 0    | 55   |
| Future Vol, veh/h        | 58   | 515  | 20   | 2    | 459  | 12   | 18   | 0    | 2    | 12   | 0    | 55   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -    | None |
| Storage Length           | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 93   | 93   | 93   | 89   | 89   | 89   | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 1    | 3    | 1    | 1    | 7    | 1    | 1    | 1    | 1    | 1    | 1    | 1    |
| Mvmt Flow                | 62   | 554  | 22   | 2    | 516  | 13   | 20   | 0    | 2    | 13   | 0    | 61   |

|                      |        |   |   |        |   |   |        |       |       |        |       |       |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |       |       | Minor2 |       |       |
| Conflicting Flow All | 529    | 0 | 0 | 576    | 0 | 0 | 1246   | 1222  | 565   | 1217   | 1227  | 523   |
| Stage 1              | -      | - | - | -      | - | - | 689    | 689   | -     | 527    | 527   | -     |
| Stage 2              | -      | - | - | -      | - | - | 557    | 533   | -     | 690    | 700   | -     |
| Critical Hdwy        | 4.11   | - | - | 4.11   | - | - | 7.11   | 6.51  | 6.21  | 7.11   | 6.51  | 6.21  |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | 6.11   | 5.51  | -     | 6.11   | 5.51  | -     |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | 6.11   | 5.51  | -     | 6.11   | 5.51  | -     |
| Follow-up Hdwy       | 2.209  | - | - | 2.209  | - | - | 3.509  | 4.009 | 3.309 | 3.509  | 4.009 | 3.309 |
| Pot Cap-1 Maneuver   | 1043   | - | - | 1002   | - | - | 151    | 180   | 526   | 158    | 179   | 556   |
| Stage 1              | -      | - | - | -      | - | - | 437    | 448   | -     | 536    | 530   | -     |
| Stage 2              | -      | - | - | -      | - | - | 517    | 527   | -     | 437    | 443   | -     |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | -     | -     | -      | -     | -     |
| Mov Cap-1 Maneuver   | 1043   | - | - | 1002   | - | - | 125    | 164   | 526   | 146    | 163   | 556   |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | 125    | 164   | -     | 146    | 163   | -     |
| Stage 1              | -      | - | - | -      | - | - | 399    | 409   | -     | 489    | 528   | -     |
| Stage 2              | -      | - | - | -      | - | - | 459    | 525   | -     | 397    | 404   | -     |

|                      |     |    |      |      |
|----------------------|-----|----|------|------|
| Approach             | EB  | WB | NB   | SB   |
| HCM Control Delay, s | 0.8 | 0  | 36.9 | 17.2 |
| HCM LOS              |     |    | E    | C    |

|                       |       |      |     |     |       |     |     |       |
|-----------------------|-------|------|-----|-----|-------|-----|-----|-------|
| Minor Lane/Major Mvmt | NBLn1 | EBL  | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
| Capacity (veh/h)      | 135   | 1043 | -   | -   | 1002  | -   | -   | 370   |
| HCM Lane V/C Ratio    | 0.165 | 0.06 | -   | -   | 0.002 | -   | -   | 0.201 |
| HCM Control Delay (s) | 36.9  | 8.7  | 0   | -   | 8.6   | 0   | -   | 17.2  |
| HCM Lane LOS          | E     | A    | A   | -   | A     | A   | -   | C     |
| HCM 95th %tile Q(veh) | 0.6   | 0.2  | -   | -   | 0     | -   | -   | 0.7   |



# Lanes, Volumes, Timings

## 14: East Site Access & Lakeshore Road

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (vph)       | 161                                                                               | 290                                                                               | 78                                                                                | 10                                                                                | 250                                                                               | 36                                                                                | 70                                                                                | 0                                                                                   | 9                                                                                   | 36                                                                                  | 0                                                                                   | 153                                                                                 |
| Future Volume (vph)        | 161                                                                               | 290                                                                               | 78                                                                                | 10                                                                                | 250                                                                               | 36                                                                                | 70                                                                                | 0                                                                                   | 9                                                                                   | 36                                                                                  | 0                                                                                   | 153                                                                                 |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Satd. Flow (prot)          | 0                                                                                 | 1796                                                                              | 0                                                                                 | 0                                                                                 | 1759                                                                              | 0                                                                                 | 0                                                                                 | 1775                                                                                | 0                                                                                   | 0                                                                                   | 1661                                                                                | 0                                                                                   |
| Flt Permitted              |                                                                                   | 0.985                                                                             |                                                                                   |                                                                                   | 0.998                                                                             |                                                                                   |                                                                                   | 0.958                                                                               |                                                                                     |                                                                                     | 0.991                                                                               |                                                                                     |
| Satd. Flow (perm)          | 0                                                                                 | 1796                                                                              | 0                                                                                 | 0                                                                                 | 1759                                                                              | 0                                                                                 | 0                                                                                 | 1775                                                                                | 0                                                                                   | 0                                                                                   | 1661                                                                                | 0                                                                                   |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 30                                                                                  |                                                                                     |                                                                                     | 30                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 475                                                                               |                                                                                   |                                                                                   | 621                                                                               |                                                                                   |                                                                                   | 334                                                                                 |                                                                                     |                                                                                     | 326                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 9.3                                                                               |                                                                                   |                                                                                   | 12.1                                                                              |                                                                                   |                                                                                   | 7.6                                                                                 |                                                                                     |                                                                                     | 7.4                                                                                 |                                                                                     |
| Peak Hour Factor           | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.89                                                                              | 0.89                                                                              | 0.89                                                                              | 0.90                                                                              | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                |
| Heavy Vehicles (%)         | 1%                                                                                | 3%                                                                                | 1%                                                                                | 1%                                                                                | 7%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 0                                                                                 | 569                                                                               | 0                                                                                 | 0                                                                                 | 332                                                                               | 0                                                                                 | 0                                                                                 | 88                                                                                  | 0                                                                                   | 0                                                                                   | 210                                                                                 | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Sign Control               |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Stop                                                                                |                                                                                     |                                                                                     | Stop                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 70.4%

ICU Level of Service C

Analysis Period (min) 15



HCM 6th TWSC  
14: East Site Access & Lakeshore Road

07/05/2022

Intersection

| Int Delay, s/veh         | 9.7  |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      | ↔    |      |      | ↔    |      |      | ↔    |      |      | ↔    |      |
| Traffic Vol, veh/h       | 161  | 290  | 78   | 10   | 250  | 36   | 70   | 0    | 9    | 36   | 0    | 153  |
| Future Vol, veh/h        | 161  | 290  | 78   | 10   | 250  | 36   | 70   | 0    | 9    | 36   | 0    | 153  |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -    | None |
| Storage Length           | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 93   | 93   | 93   | 89   | 89   | 89   | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 1    | 3    | 1    | 1    | 7    | 1    | 1    | 1    | 1    | 1    | 1    | 1    |
| Mvmt Flow                | 173  | 312  | 84   | 11   | 281  | 40   | 78   | 0    | 10   | 40   | 0    | 170  |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |       |       | Minor2 |       |       |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Conflicting Flow All | 321    | 0 | 0 | 396    | 0 | 0 | 1108   | 1043  | 354   | 1028   | 1065  | 301   |
| Stage 1              | -      | - | - | -      | - | - | 700    | 700   | -     | 323    | 323   | -     |
| Stage 2              | -      | - | - | -      | - | - | 408    | 343   | -     | 705    | 742   | -     |
| Critical Hdwy        | 4.11   | - | - | 4.11   | - | - | 7.11   | 6.51  | 6.21  | 7.11   | 6.51  | 6.21  |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | 6.11   | 5.51  | -     | 6.11   | 5.51  | -     |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | 6.11   | 5.51  | -     | 6.11   | 5.51  | -     |
| Follow-up Hdwy       | 2.209  | - | - | 2.209  | - | - | 3.509  | 4.009 | 3.309 | 3.509  | 4.009 | 3.309 |
| Pot Cap-1 Maneuver   | 1245   | - | - | 1168   | - | - | 188    | 230   | 692   | 213    | 223   | 741   |
| Stage 1              | -      | - | - | -      | - | - | 431    | 443   | -     | 691    | 652   | -     |
| Stage 2              | -      | - | - | -      | - | - | 622    | 639   | -     | 429    | 424   | -     |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | -     | -     | -      | -     | -     |
| Mov Cap-1 Maneuver   | 1245   | - | - | 1168   | - | - | 124    | 186   | 692   | 179    | 181   | 741   |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | 124    | 186   | -     | 179    | 181   | -     |
| Stage 1              | -      | - | - | -      | - | - | 353    | 363   | -     | 567    | 644   | -     |
| Stage 2              | -      | - | - | -      | - | - | 474    | 631   | -     | 347    | 348   | -     |

| Approach             | EB  |  |  | WB  |  |  | NB   |  |  | SB |  |  |
|----------------------|-----|--|--|-----|--|--|------|--|--|----|--|--|
| HCM Control Delay, s | 2.5 |  |  | 0.3 |  |  | 69.2 |  |  | 19 |  |  |
| HCM LOS              |     |  |  |     |  |  | F    |  |  | C  |  |  |

| Minor Lane/Major Mvmt | NBLn1 | EBL   | EBT | EBR | WBL  | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-----|-----|------|-----|-----|-------|
| Capacity (veh/h)      | 137   | 1245  | -   | -   | 1168 | -   | -   | 464   |
| HCM Lane V/C Ratio    | 0.641 | 0.139 | -   | -   | 0.01 | -   | -   | 0.453 |
| HCM Control Delay (s) | 69.2  | 8.4   | 0   | -   | 8.1  | 0   | -   | 19    |
| HCM Lane LOS          | F     | A     | A   | -   | A    | A   | -   | C     |
| HCM 95th %tile Q(veh) | 3.4   | 0.5   | -   | -   | 0    | -   | -   | 2.3   |



# Lanes, Volumes, Timings

## 1: Route 11 & Route 31

07/05/2022

|                            |  |  |  |  |  |  |   |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |  |  |                                                                                   |  |  |                                                                                   |  |  |  |  |  |                                                                                     |
| Traffic Volume (vph)       | 62                                                                                | 678                                                                               | 51                                                                                | 359                                                                               | 440                                                                               | 110                                                                               | 39                                                                                 | 96                                                                                  | 221                                                                                 | 120                                                                                 | 135                                                                                 | 35                                                                                  |
| Future Volume (vph)        | 62                                                                                | 678                                                                               | 51                                                                                | 359                                                                               | 440                                                                               | 110                                                                               | 39                                                                                 | 96                                                                                  | 221                                                                                 | 120                                                                                 | 135                                                                                 | 35                                                                                  |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                               | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 200                                                                               |                                                                                   | 310                                                                               | 495                                                                               |                                                                                   | 0                                                                                 | 175                                                                                |                                                                                     | 0                                                                                   | 350                                                                                 |                                                                                     | 0                                                                                   |
| Storage Lanes              | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                  |                                                                                     | 1                                                                                   | 1                                                                                   |                                                                                     | 0                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                 |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 1752                                                                              | 3466                                                                              | 0                                                                                 | 1736                                                                              | 3367                                                                              | 0                                                                                 | 1752                                                                               | 1845                                                                                | 1568                                                                                | 1719                                                                                | 3332                                                                                | 0                                                                                   |
| Flt Permitted              | 0.429                                                                             |                                                                                   |                                                                                   | 0.174                                                                             |                                                                                   |                                                                                   | 0.609                                                                              |                                                                                     |                                                                                     | 0.591                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)          | 791                                                                               | 3466                                                                              | 0                                                                                 | 318                                                                               | 3367                                                                              | 0                                                                                 | 1123                                                                               | 1845                                                                                | 1568                                                                                | 1069                                                                                | 3332                                                                                | 0                                                                                   |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                    |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   | 7                                                                                 |                                                                                   |                                                                                   | 39                                                                                |                                                                                   |                                                                                    |                                                                                     | 84                                                                                  |                                                                                     | 25                                                                                  |                                                                                     |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                    | 35                                                                                  |                                                                                     |                                                                                     | 35                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 385                                                                               |                                                                                   |                                                                                   | 703                                                                               |                                                                                   |                                                                                    | 612                                                                                 |                                                                                     |                                                                                     | 561                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 7.5                                                                               |                                                                                   |                                                                                   | 13.7                                                                              |                                                                                   |                                                                                    | 11.9                                                                                |                                                                                     |                                                                                     | 10.9                                                                                |                                                                                     |
| Peak Hour Factor           | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.87                                                                               | 0.87                                                                                | 0.87                                                                                | 0.74                                                                                | 0.74                                                                                | 0.74                                                                                |
| Heavy Vehicles (%)         | 3%                                                                                | 3%                                                                                | 3%                                                                                | 4%                                                                                | 4%                                                                                | 4%                                                                                | 3%                                                                                 | 3%                                                                                  | 3%                                                                                  | 5%                                                                                  | 5%                                                                                  | 5%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 70                                                                                | 828                                                                               | 0                                                                                 | 386                                                                               | 591                                                                               | 0                                                                                 | 45                                                                                 | 110                                                                                 | 254                                                                                 | 162                                                                                 | 229                                                                                 | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                 | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                               | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                    | 12                                                                                  |                                                                                     |                                                                                     | 12                                                                                  |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                    | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                    | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                 |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                              | NA                                                                                  | pm+ov                                                                               | pm+pt                                                                               | NA                                                                                  |                                                                                     |
| Protected Phases           | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 3                                                                                  | 8                                                                                   | 1                                                                                   | 7                                                                                   | 4                                                                                   |                                                                                     |
| Permitted Phases           | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                  |                                                                                     | 8                                                                                   | 4                                                                                   |                                                                                     |                                                                                     |
| Detector Phase             | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 3                                                                                  | 8                                                                                   | 1                                                                                   | 7                                                                                   | 4                                                                                   |                                                                                     |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 4.0                                                                               | 12.0                                                                              |                                                                                   | 8.0                                                                               | 12.0                                                                              |                                                                                   | 4.0                                                                                | 8.0                                                                                 | 8.0                                                                                 | 4.0                                                                                 | 8.0                                                                                 |                                                                                     |
| Minimum Split (s)          | 9.5                                                                               | 18.0                                                                              |                                                                                   | 13.5                                                                              | 18.0                                                                              |                                                                                   | 10.0                                                                               | 14.0                                                                                | 13.5                                                                                | 9.5                                                                                 | 14.0                                                                                |                                                                                     |
| Total Split (s)            | 12.0                                                                              | 37.0                                                                              |                                                                                   | 34.0                                                                              | 59.0                                                                              |                                                                                   | 16.0                                                                               | 26.0                                                                                | 34.0                                                                                | 13.0                                                                                | 23.0                                                                                |                                                                                     |
| Total Split (%)            | 10.9%                                                                             | 33.6%                                                                             |                                                                                   | 30.9%                                                                             | 53.6%                                                                             |                                                                                   | 14.5%                                                                              | 23.6%                                                                               | 30.9%                                                                               | 11.8%                                                                               | 20.9%                                                                               |                                                                                     |
| Maximum Green (s)          | 6.5                                                                               | 31.0                                                                              |                                                                                   | 28.5                                                                              | 53.0                                                                              |                                                                                   | 10.0                                                                               | 20.0                                                                                | 28.5                                                                                | 7.5                                                                                 | 17.0                                                                                |                                                                                     |
| Yellow Time (s)            | 3.5                                                                               | 3.5                                                                               |                                                                                   | 3.5                                                                               | 3.5                                                                               |                                                                                   | 3.5                                                                                | 3.5                                                                                 | 3.5                                                                                 | 3.0                                                                                 | 3.5                                                                                 |                                                                                     |
| All-Red Time (s)           | 2.0                                                                               | 2.5                                                                               |                                                                                   | 2.0                                                                               | 2.5                                                                               |                                                                                   | 2.5                                                                                | 2.5                                                                                 | 2.0                                                                                 | 2.5                                                                                 | 2.5                                                                                 |                                                                                     |
| Lost Time Adjust (s)       | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                                | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)        | 5.5                                                                               | 6.0                                                                               |                                                                                   | 5.5                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                                | 6.0                                                                                 | 5.5                                                                                 | 5.5                                                                                 | 6.0                                                                                 |                                                                                     |
| Lead/Lag                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                               | Lag                                                                                 | Lead                                                                                | Lead                                                                                | Lag                                                                                 |                                                                                     |
| Lead-Lag Optimize?         | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                                | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 |                                                                                     |
| Vehicle Extension (s)      | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                                | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |
| Recall Mode                | None                                                                              | C-Min                                                                             |                                                                                   | None                                                                              | C-Min                                                                             |                                                                                   | None                                                                               | None                                                                                | None                                                                                | None                                                                                | None                                                                                |                                                                                     |
| Act Effect Green (s)       | 48.3                                                                              | 40.8                                                                              |                                                                                   | 71.0                                                                              | 60.2                                                                              |                                                                                   | 20.7                                                                               | 12.9                                                                                | 43.1                                                                                | 23.7                                                                                | 16.1                                                                                |                                                                                     |
| Actuated g/C Ratio         | 0.44                                                                              | 0.37                                                                              |                                                                                   | 0.65                                                                              | 0.55                                                                              |                                                                                   | 0.19                                                                               | 0.12                                                                                | 0.39                                                                                | 0.22                                                                                | 0.15                                                                                |                                                                                     |
| v/c Ratio                  | 0.17                                                                              | 0.64                                                                              |                                                                                   | 0.75                                                                              | 0.32                                                                              |                                                                                   | 0.18                                                                               | 0.51                                                                                | 0.38                                                                                | 0.57                                                                                | 0.45                                                                                |                                                                                     |
| Control Delay              | 12.2                                                                              | 32.9                                                                              |                                                                                   | 36.3                                                                              | 17.0                                                                              |                                                                                   | 32.4                                                                               | 52.9                                                                                | 15.7                                                                                | 43.6                                                                                | 42.1                                                                                |                                                                                     |



# Lanes, Volumes, Timings

## 1: Route 11 & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Queue Delay             | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                                | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Delay             | 12.2                                                                              | 32.9                                                                              |                                                                                   | 36.3                                                                              | 17.0                                                                              |                                                                                   | 32.4                                                                               | 52.9                                                                                | 15.7                                                                                | 43.6                                                                                | 42.1                                                                                |                                                                                     |
| LOS                     | B                                                                                 | C                                                                                 |                                                                                   | D                                                                                 | B                                                                                 |                                                                                   | C                                                                                  | D                                                                                   | B                                                                                   | D                                                                                   | D                                                                                   |                                                                                     |
| Approach Delay          |                                                                                   | 31.3                                                                              |                                                                                   |                                                                                   | 24.6                                                                              |                                                                                   |                                                                                    | 27.6                                                                                |                                                                                     |                                                                                     | 42.7                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                    | C                                                                                   |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 16                                                                                | 245                                                                               |                                                                                   | 205                                                                               | 106                                                                               |                                                                                   | 25                                                                                 | 75                                                                                  | 82                                                                                  | 96                                                                                  | 73                                                                                  |                                                                                     |
| Queue Length 95th (ft)  | 37                                                                                | 355                                                                               |                                                                                   | 299                                                                               | 177                                                                               |                                                                                   | 50                                                                                 | 120                                                                                 | 114                                                                                 | 118                                                                                 | 87                                                                                  |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 305                                                                               |                                                                                   |                                                                                   | 623                                                                               |                                                                                   |                                                                                    | 532                                                                                 |                                                                                     |                                                                                     | 481                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 200                                                                               |                                                                                   |                                                                                   | 495                                                                               |                                                                                   |                                                                                   | 175                                                                                |                                                                                     |                                                                                     | 350                                                                                 |                                                                                     |                                                                                     |
| Base Capacity (vph)     | 411                                                                               | 1289                                                                              |                                                                                   | 576                                                                               | 1859                                                                              |                                                                                   | 290                                                                                | 335                                                                                 | 727                                                                                 | 284                                                                                 | 574                                                                                 |                                                                                     |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       | 0.17                                                                              | 0.64                                                                              |                                                                                   | 0.67                                                                              | 0.32                                                                              |                                                                                   | 0.16                                                                               | 0.33                                                                                | 0.35                                                                                | 0.57                                                                                | 0.40                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 15 (14%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 30.0

Intersection LOS: C

Intersection Capacity Utilization 72.7%

ICU Level of Service C

Analysis Period (min) 15

### Splits and Phases: 1: Route 11 & Route 31

|                                                                                        |                                                                                            |                                                                                          |                                                                                          |
|----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
|  Ø1 |  Ø2 (R) |  Ø3 |  Ø4 |
| 34 s                                                                                   | 37 s                                                                                       | 16 s                                                                                     | 23 s                                                                                     |
|  Ø5 |  Ø6 (R) |  Ø7 |  Ø8 |
| 12 s                                                                                   | 59 s                                                                                       | 13 s                                                                                     | 26 s                                                                                     |



# Lanes, Volumes, Timings

## 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |                                                                                   |  |                                                                                   |  |  |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |  |  |
| Traffic Volume (vph)       | 0                                                                                 | 643                                                                               | 376                                                                               | 836                                                                               | 751                                                                               | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 183                                                                                 | 1                                                                                   | 158                                                                                 |
| Future Volume (vph)        | 0                                                                                 | 643                                                                               | 376                                                                               | 836                                                                               | 751                                                                               | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 183                                                                                 | 1                                                                                   | 158                                                                                 |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 0                                                                                 |                                                                                   | 0                                                                                 | 150                                                                               |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     | 125                                                                                 |
| Storage Lanes              | 0                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     | 1                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 0                                                                                 | 3351                                                                              | 0                                                                                 | 1787                                                                              | 3574                                                                              | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 1775                                                                                | 1583                                                                                |
| Flt Permitted              |                                                                                   |                                                                                   |                                                                                   | 0.095                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 0.953                                                                               |                                                                                     |
| Satd. Flow (perm)          | 0                                                                                 | 3351                                                                              | 0                                                                                 | 179                                                                               | 3574                                                                              | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 1775                                                                                | 1583                                                                                |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   | 108                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 174                                                                                 |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 40                                                                                  |                                                                                     |                                                                                     | 40                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 703                                                                               |                                                                                   |                                                                                   | 360                                                                               |                                                                                   |                                                                                   | 622                                                                                 |                                                                                     |                                                                                     | 505                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 13.7                                                                              |                                                                                   |                                                                                   | 7.0                                                                               |                                                                                   |                                                                                   | 10.6                                                                                |                                                                                     |                                                                                     | 8.6                                                                                 |                                                                                     |
| Confl. Peds. (#/hr)        |                                                                                   |                                                                                   | 1                                                                                 | 1                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Peak Hour Factor           | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.94                                                                              | 0.94                                                                              | 0.94                                                                              | 0.90                                                                              | 0.90                                                                                | 0.90                                                                                | 0.91                                                                                | 0.91                                                                                | 0.91                                                                                |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                  | 1%                                                                                  | 2%                                                                                  | 2%                                                                                  | 2%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 0                                                                                 | 1158                                                                              | 0                                                                                 | 889                                                                               | 799                                                                               | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 202                                                                                 | 174                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  |                                                                                   | NA                                                                                |                                                                                   | pm+pt                                                                             | NA                                                                                |                                                                                   |                                                                                   |                                                                                     |                                                                                     | Perm                                                                                | NA                                                                                  | Perm                                                                                |
| Protected Phases           |                                                                                   | 2                                                                                 |                                                                                   | 1 3                                                                               | 6                                                                                 |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |
| Permitted Phases           |                                                                                   |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     | 4                                                                                   |
| Detector Phase             |                                                                                   | 2                                                                                 |                                                                                   | 1 3                                                                               | 6                                                                                 |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 4                                                                                   | 4                                                                                   | 4                                                                                   |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        |                                                                                   | 12.0                                                                              |                                                                                   |                                                                                   | 12.0                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 |
| Minimum Split (s)          |                                                                                   | 17.0                                                                              |                                                                                   |                                                                                   | 17.0                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 9.0                                                                                 | 9.0                                                                                 | 9.0                                                                                 |
| Total Split (s)            |                                                                                   | 37.0                                                                              |                                                                                   |                                                                                   | 91.0                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 19.0                                                                                | 19.0                                                                                | 19.0                                                                                |
| Total Split (%)            |                                                                                   | 33.6%                                                                             |                                                                                   |                                                                                   | 82.7%                                                                             |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 17.3%                                                                               | 17.3%                                                                               | 17.3%                                                                               |
| Maximum Green (s)          |                                                                                   | 32.0                                                                              |                                                                                   |                                                                                   | 86.0                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 14.0                                                                                | 14.0                                                                                | 14.0                                                                                |
| Yellow Time (s)            |                                                                                   | 3.5                                                                               |                                                                                   |                                                                                   | 3.5                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 |
| All-Red Time (s)           |                                                                                   | 1.5                                                                               |                                                                                   |                                                                                   | 1.5                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 1.0                                                                                 | 1.0                                                                                 | 1.0                                                                                 |
| Lost Time Adjust (s)       |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |
| Total Lost Time (s)        |                                                                                   | 5.0                                                                               |                                                                                   |                                                                                   | 5.0                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |
| Lead/Lag                   |                                                                                   | Lag                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?         |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Vehicle Extension (s)      |                                                                                   | 3.0                                                                               |                                                                                   |                                                                                   | 3.0                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |
| Recall Mode                |                                                                                   | C-Min                                                                             |                                                                                   |                                                                                   | C-Min                                                                             |                                                                                   |                                                                                   |                                                                                     |                                                                                     | None                                                                                | None                                                                                | None                                                                                |
| Act Effect Green (s)       |                                                                                   | 32.0                                                                              |                                                                                   | 86.0                                                                              | 86.0                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 14.0                                                                                | 14.0                                                                                |
| Actuated g/C Ratio         |                                                                                   | 0.29                                                                              |                                                                                   | 0.78                                                                              | 0.78                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 0.13                                                                                | 0.13                                                                                |
| v/c Ratio                  |                                                                                   | 1.10                                                                              |                                                                                   | 1.14                                                                              | 0.29                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 0.90                                                                                | 0.49                                                                                |



# Lanes, Volumes, Timings

## 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

07/05/2022

| Lane Group                 | Ø1   | Ø3   |
|----------------------------|------|------|
| Lane Configurations        |      |      |
| Traffic Volume (vph)       |      |      |
| Future Volume (vph)        |      |      |
| Ideal Flow (vphpl)         |      |      |
| Storage Length (ft)        |      |      |
| Storage Lanes              |      |      |
| Taper Length (ft)          |      |      |
| Satd. Flow (prot)          |      |      |
| Flt Permitted              |      |      |
| Satd. Flow (perm)          |      |      |
| Right Turn on Red          |      |      |
| Satd. Flow (RTOR)          |      |      |
| Link Speed (mph)           |      |      |
| Link Distance (ft)         |      |      |
| Travel Time (s)            |      |      |
| Confl. Peds. (#/hr)        |      |      |
| Peak Hour Factor           |      |      |
| Heavy Vehicles (%)         |      |      |
| Shared Lane Traffic (%)    |      |      |
| Lane Group Flow (vph)      |      |      |
| Enter Blocked Intersection |      |      |
| Lane Alignment             |      |      |
| Median Width(ft)           |      |      |
| Link Offset(ft)            |      |      |
| Crosswalk Width(ft)        |      |      |
| Two way Left Turn Lane     |      |      |
| Headway Factor             |      |      |
| Turning Speed (mph)        |      |      |
| Turn Type                  |      |      |
| Protected Phases           | 1    | 3    |
| Permitted Phases           |      |      |
| Detector Phase             |      |      |
| Switch Phase               |      |      |
| Minimum Initial (s)        | 4.0  | 4.0  |
| Minimum Split (s)          | 9.0  | 9.0  |
| Total Split (s)            | 25.0 | 29.0 |
| Total Split (%)            | 23%  | 26%  |
| Maximum Green (s)          | 20.0 | 24.0 |
| Yellow Time (s)            | 3.5  | 3.5  |
| All-Red Time (s)           | 1.5  | 1.5  |
| Lost Time Adjust (s)       |      |      |
| Total Lost Time (s)        |      |      |
| Lead/Lag                   | Lead |      |
| Lead-Lag Optimize?         | Yes  |      |
| Vehicle Extension (s)      | 3.0  | 3.0  |
| Recall Mode                | None | None |
| Act Effect Green (s)       |      |      |
| Actuated g/C Ratio         |      |      |
| v/c Ratio                  |      |      |



# Lanes, Volumes, Timings

## 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Control Delay           |                                                                                   | 84.5                                                                              |                                                                                   | 96.9                                                                              | 2.6                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 86.7                                                                                | 11.8                                                                                |
| Queue Delay             |                                                                                   | 0.0                                                                               |                                                                                   | 1.8                                                                               | 0.4                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |
| Total Delay             |                                                                                   | 84.5                                                                              |                                                                                   | 98.7                                                                              | 3.0                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 86.7                                                                                | 11.8                                                                                |
| LOS                     |                                                                                   | F                                                                                 |                                                                                   | F                                                                                 | A                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | F                                                                                   | B                                                                                   |
| Approach Delay          |                                                                                   | 84.5                                                                              |                                                                                   |                                                                                   | 53.4                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 52.1                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | F                                                                                 |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Queue Length 50th (ft)  |                                                                                   | ~429                                                                              |                                                                                   | ~456                                                                              | 12                                                                                |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 142                                                                                 | 0                                                                                   |
| Queue Length 95th (ft)  |                                                                                   | #552                                                                              |                                                                                   | #953                                                                              | 29                                                                                |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | #278                                                                                | 62                                                                                  |
| Internal Link Dist (ft) |                                                                                   | 623                                                                               |                                                                                   |                                                                                   | 280                                                                               |                                                                                   |                                                                                    | 542                                                                                 |                                                                                     |                                                                                     | 425                                                                                 |                                                                                     |
| Turn Bay Length (ft)    |                                                                                   |                                                                                   |                                                                                   | 150                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 125                                                                                 |
| Base Capacity (vph)     |                                                                                   | 1051                                                                              |                                                                                   | 783                                                                               | 2794                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 225                                                                                 | 353                                                                                 |
| Starvation Cap Reductn  |                                                                                   | 0                                                                                 |                                                                                   | 191                                                                               | 1357                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 0                                                                                   | 0                                                                                   |
| Spillback Cap Reductn   |                                                                                   | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 0                                                                                   | 0                                                                                   |
| Storage Cap Reductn     |                                                                                   | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 0                                                                                   | 0                                                                                   |
| Reduced v/c Ratio       |                                                                                   | 1.10                                                                              |                                                                                   | 1.50                                                                              | 0.56                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 0.90                                                                                | 0.49                                                                                |

### Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 28 (25%), Referenced to phase 2:EBT and 6:WBTL, Start of Yellow

Natural Cycle: 140

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.14

Intersection Signal Delay: 64.4

Intersection LOS: E

Intersection Capacity Utilization 98.9%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

|                                                                                            |                                                                                            |                                                                                        |                                                                                          |
|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
|  Ø1     |  Ø2 (R) |  Ø3 |  Ø4 |
| 25 s                                                                                       | 37 s                                                                                       | 29 s                                                                                   | 19 s                                                                                     |
|  Ø6 (R) |                                                                                            |                                                                                        |                                                                                          |
| 91 s                                                                                       |                                                                                            |                                                                                        |                                                                                          |



## Lanes, Volumes, Timings

### 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

07/05/2022

| Lane Group              | Ø1 | Ø3 |
|-------------------------|----|----|
| Control Delay           |    |    |
| Queue Delay             |    |    |
| Total Delay             |    |    |
| LOS                     |    |    |
| Approach Delay          |    |    |
| Approach LOS            |    |    |
| Queue Length 50th (ft)  |    |    |
| Queue Length 95th (ft)  |    |    |
| Internal Link Dist (ft) |    |    |
| Turn Bay Length (ft)    |    |    |
| Base Capacity (vph)     |    |    |
| Starvation Cap Reductn  |    |    |
| Spillback Cap Reductn   |    |    |
| Storage Cap Reductn     |    |    |
| Reduced v/c Ratio       |    |    |
| Intersection Summary    |    |    |



# Lanes, Volumes, Timings

## 3: I-81 NB Offramp/Pardee Road & Route 31

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |  |  |                                                                                   |                                                                                   |  |                                                                                   |  |  |  |                                                                                     |                                                                                     |  |
| Traffic Volume (vph)       | 95                                                                                | 731                                                                               | 0                                                                                 | 0                                                                                 | 1282                                                                              | 145                                                                               | 159                                                                               | 64                                                                                  | 455                                                                                 | 0                                                                                   | 0                                                                                   | 146                                                                                 |
| Future Volume (vph)        | 95                                                                                | 731                                                                               | 0                                                                                 | 0                                                                                 | 1282                                                                              | 145                                                                               | 159                                                                               | 64                                                                                  | 455                                                                                 | 0                                                                                   | 0                                                                                   | 146                                                                                 |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 85                                                                                |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 310                                                                               |                                                                                     | 100                                                                                 | 0                                                                                   |                                                                                     | 0                                                                                   |
| Storage Lanes              | 1                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                     | 1                                                                                   | 0                                                                                   |                                                                                     | 1                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 1736                                                                              | 3471                                                                              | 0                                                                                 | 0                                                                                 | 3445                                                                              | 0                                                                                 | 1719                                                                              | 1508                                                                                | 1461                                                                                | 0                                                                                   | 0                                                                                   | 1536                                                                                |
| Flt Permitted              | 0.078                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.950                                                                             |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Satd. Flow (perm)          | 142                                                                               | 3471                                                                              | 0                                                                                 | 0                                                                                 | 3445                                                                              | 0                                                                                 | 1717                                                                              | 1508                                                                                | 1442                                                                                | 0                                                                                   | 0                                                                                   | 1536                                                                                |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 18                                                                                |                                                                                   |                                                                                   | 132                                                                                 | 193                                                                                 |                                                                                     |                                                                                     | 139                                                                                 |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 40                                                                                  |                                                                                     |                                                                                     | 55                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 360                                                                               |                                                                                   |                                                                                   | 1082                                                                              |                                                                                   |                                                                                   | 639                                                                                 |                                                                                     |                                                                                     | 500                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 7.0                                                                               |                                                                                   |                                                                                   | 21.1                                                                              |                                                                                   |                                                                                   | 10.9                                                                                |                                                                                     |                                                                                     | 6.2                                                                                 |                                                                                     |
| Confl. Peds. (#/hr)        | 1                                                                                 |                                                                                   | 1                                                                                 | 1                                                                                 |                                                                                   | 1                                                                                 | 1                                                                                 |                                                                                     | 1                                                                                   | 1                                                                                   |                                                                                     | 1                                                                                   |
| Peak Hour Factor           | 0.83                                                                              | 0.83                                                                              | 0.83                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.89                                                                              | 0.89                                                                                | 0.89                                                                                | 0.84                                                                                | 0.84                                                                                | 0.84                                                                                |
| Heavy Vehicles (%)         | 4%                                                                                | 4%                                                                                | 4%                                                                                | 3%                                                                                | 3%                                                                                | 3%                                                                                | 5%                                                                                | 5%                                                                                  | 5%                                                                                  | 7%                                                                                  | 7%                                                                                  | 7%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 44%                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 114                                                                               | 881                                                                               | 0                                                                                 | 0                                                                                 | 1585                                                                              | 0                                                                                 | 179                                                                               | 297                                                                                 | 286                                                                                 | 0                                                                                   | 0                                                                                   | 174                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                  |                                                                                     |                                                                                     | 12                                                                                  |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | pm+pt                                                                             | NA                                                                                |                                                                                   |                                                                                   | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                  | Perm                                                                                |                                                                                     |                                                                                     | Over                                                                                |
| Protected Phases           | 5                                                                                 | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     | 5                                                                                   |
| Permitted Phases           | 2                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 8                                                                                 |                                                                                     | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Detector Phase             | 5                                                                                 | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   | 8                                                                                 | 8                                                                                   | 8                                                                                   |                                                                                     |                                                                                     | 5                                                                                   |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 4.0                                                                               | 12.0                                                                              |                                                                                   |                                                                                   | 12.0                                                                              |                                                                                   | 6.0                                                                               | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |                                                                                     | 4.0                                                                                 |
| Minimum Split (s)          | 9.0                                                                               | 17.5                                                                              |                                                                                   |                                                                                   | 17.5                                                                              |                                                                                   | 12.0                                                                              | 12.0                                                                                | 12.0                                                                                |                                                                                     |                                                                                     | 9.0                                                                                 |
| Total Split (s)            | 12.0                                                                              | 79.0                                                                              |                                                                                   |                                                                                   | 67.0                                                                              |                                                                                   | 31.0                                                                              | 31.0                                                                                | 31.0                                                                                |                                                                                     |                                                                                     | 12.0                                                                                |
| Total Split (%)            | 10.9%                                                                             | 71.8%                                                                             |                                                                                   |                                                                                   | 60.9%                                                                             |                                                                                   | 28.2%                                                                             | 28.2%                                                                               | 28.2%                                                                               |                                                                                     |                                                                                     | 10.9%                                                                               |
| Maximum Green (s)          | 7.0                                                                               | 73.5                                                                              |                                                                                   |                                                                                   | 61.5                                                                              |                                                                                   | 25.0                                                                              | 25.0                                                                                | 25.0                                                                                |                                                                                     |                                                                                     | 7.0                                                                                 |
| Yellow Time (s)            | 3.0                                                                               | 3.5                                                                               |                                                                                   |                                                                                   | 3.5                                                                               |                                                                                   | 4.0                                                                               | 4.0                                                                                 | 4.0                                                                                 |                                                                                     |                                                                                     | 3.0                                                                                 |
| All-Red Time (s)           | 2.0                                                                               | 2.0                                                                               |                                                                                   |                                                                                   | 2.0                                                                               |                                                                                   | 2.0                                                                               | 2.0                                                                                 | 2.0                                                                                 |                                                                                     |                                                                                     | 2.0                                                                                 |
| Lost Time Adjust (s)       | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |                                                                                     | 0.0                                                                                 |
| Total Lost Time (s)        | 5.0                                                                               | 5.5                                                                               |                                                                                   |                                                                                   | 5.5                                                                               |                                                                                   | 6.0                                                                               | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |                                                                                     | 5.0                                                                                 |
| Lead/Lag                   | Lead                                                                              |                                                                                   |                                                                                   |                                                                                   | Lag                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | Lead                                                                                |
| Lead-Lag Optimize?         | Yes                                                                               |                                                                                   |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | Yes                                                                                 |
| Vehicle Extension (s)      | 3.0                                                                               | 3.0                                                                               |                                                                                   |                                                                                   | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |                                                                                     | 3.0                                                                                 |
| Recall Mode                | None                                                                              | C-Min                                                                             |                                                                                   |                                                                                   | C-Min                                                                             |                                                                                   | None                                                                              | None                                                                                | None                                                                                |                                                                                     |                                                                                     | None                                                                                |
| Act Effct Green (s)        | 80.1                                                                              | 79.6                                                                              |                                                                                   |                                                                                   | 67.0                                                                              |                                                                                   | 18.9                                                                              | 18.9                                                                                | 18.9                                                                                |                                                                                     |                                                                                     | 7.5                                                                                 |
| Actuated g/C Ratio         | 0.73                                                                              | 0.72                                                                              |                                                                                   |                                                                                   | 0.61                                                                              |                                                                                   | 0.17                                                                              | 0.17                                                                                | 0.17                                                                                |                                                                                     |                                                                                     | 0.07                                                                                |
| v/c Ratio                  | 0.54                                                                              | 0.35                                                                              |                                                                                   |                                                                                   | 0.75                                                                              |                                                                                   | 0.61                                                                              | 0.81                                                                                | 0.70                                                                                |                                                                                     |                                                                                     | 0.74                                                                                |



# Lanes, Volumes, Timings

## 3: I-81 NB Offramp/Pardee Road & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Control Delay           | 24.7                                                                              | 4.6                                                                               |                                                                                   |                                                                                   | 14.9                                                                              |                                                                                   | 49.9                                                                              | 40.3                                                                                | 23.4                                                                                |                                                                                     |                                                                                     | 33.5                                                                                |
| Queue Delay             | 0.0                                                                               | 0.7                                                                               |                                                                                   |                                                                                   | 1.4                                                                               |                                                                                   | 2.1                                                                               | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |                                                                                     | 12.6                                                                                |
| Total Delay             | 24.7                                                                              | 5.2                                                                               |                                                                                   |                                                                                   | 16.2                                                                              |                                                                                   | 52.0                                                                              | 40.3                                                                                | 23.4                                                                                |                                                                                     |                                                                                     | 46.1                                                                                |
| LOS                     | C                                                                                 | A                                                                                 |                                                                                   |                                                                                   | B                                                                                 |                                                                                   | D                                                                                 | D                                                                                   | C                                                                                   |                                                                                     |                                                                                     | D                                                                                   |
| Approach Delay          |                                                                                   | 7.5                                                                               |                                                                                   |                                                                                   | 16.2                                                                              |                                                                                   |                                                                                   | 36.7                                                                                |                                                                                     |                                                                                     | 46.1                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | B                                                                                 |                                                                                   |                                                                                   | D                                                                                   |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 37                                                                                | 52                                                                                |                                                                                   |                                                                                   | 344                                                                               |                                                                                   | 117                                                                               | 120                                                                                 | 61                                                                                  |                                                                                     |                                                                                     | 24                                                                                  |
| Queue Length 95th (ft)  | m32                                                                               | m18                                                                               |                                                                                   |                                                                                   | m404                                                                              |                                                                                   | 177                                                                               | 211                                                                                 | 150                                                                                 |                                                                                     |                                                                                     | #102                                                                                |
| Internal Link Dist (ft) |                                                                                   | 280                                                                               |                                                                                   |                                                                                   | 1002                                                                              |                                                                                   |                                                                                   | 559                                                                                 |                                                                                     |                                                                                     | 420                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 85                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 310                                                                               |                                                                                     | 100                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| Base Capacity (vph)     | 214                                                                               | 2510                                                                              |                                                                                   |                                                                                   | 2106                                                                              |                                                                                   | 390                                                                               | 444                                                                                 | 476                                                                                 |                                                                                     |                                                                                     | 235                                                                                 |
| Starvation Cap Reductn  | 0                                                                                 | 1185                                                                              |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 308                                                                               |                                                                                   | 108                                                                               | 0                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 43                                                                                  |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |
| Reduced v/c Ratio       | 0.53                                                                              | 0.66                                                                              |                                                                                   |                                                                                   | 0.88                                                                              |                                                                                   | 0.63                                                                              | 0.67                                                                                | 0.60                                                                                |                                                                                     |                                                                                     | 0.91                                                                                |

### Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 38 (35%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 19.7

Intersection LOS: B

Intersection Capacity Utilization 71.8%

ICU Level of Service C

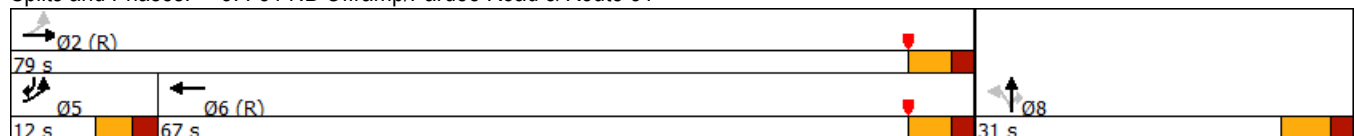
Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: I-81 NB Offramp/Pardee Road & Route 31





# Lanes, Volumes, Timings

## 4: Route 31 & Lakeshore Road

07/05/2022

|                            |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | WBT                                                                               | WBR                                                                               | SBL                                                                               | SBR                                                                               |
| Lane Configurations        |  |  |  |                                                                                   |                                                                                   |  |
| Traffic Volume (vph)       | 249                                                                               | 937                                                                               | 685                                                                               | 1                                                                                 | 0                                                                                 | 742                                                                               |
| Future Volume (vph)        | 249                                                                               | 937                                                                               | 685                                                                               | 1                                                                                 | 0                                                                                 | 742                                                                               |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Storage Length (ft)        | 225                                                                               |                                                                                   |                                                                                   | 0                                                                                 | 0                                                                                 | 0                                                                                 |
| Storage Lanes              | 1                                                                                 |                                                                                   |                                                                                   | 0                                                                                 | 0                                                                                 | 1                                                                                 |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |
| Satd. Flow (prot)          | 1770                                                                              | 3539                                                                              | 1845                                                                              | 0                                                                                 | 0                                                                                 | 1627                                                                              |
| Flt Permitted              | 0.070                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Satd. Flow (perm)          | 130                                                                               | 3539                                                                              | 1845                                                                              | 0                                                                                 | 0                                                                                 | 1627                                                                              |
| Right Turn on Red          |                                                                                   |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   | Yes                                                                               |
| Satd. Flow (RTOR)          |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 108                                                                               |
| Link Speed (mph)           |                                                                                   | 35                                                                                | 35                                                                                |                                                                                   | 35                                                                                |                                                                                   |
| Link Distance (ft)         |                                                                                   | 1082                                                                              | 959                                                                               |                                                                                   | 962                                                                               |                                                                                   |
| Travel Time (s)            |                                                                                   | 21.1                                                                              | 18.7                                                                              |                                                                                   | 18.7                                                                              |                                                                                   |
| Confl. Peds. (#/hr)        | 1                                                                                 |                                                                                   |                                                                                   | 1                                                                                 |                                                                                   | 1                                                                                 |
| Peak Hour Factor           | 0.79                                                                              | 0.79                                                                              | 0.83                                                                              | 0.83                                                                              | 0.93                                                                              | 0.93                                                                              |
| Heavy Vehicles (%)         | 2%                                                                                | 2%                                                                                | 3%                                                                                | 3%                                                                                | 1%                                                                                | 1%                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)      | 315                                                                               | 1186                                                                              | 826                                                                               | 0                                                                                 | 0                                                                                 | 798                                                                               |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment             | Left                                                                              | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Right                                                                             |
| Median Width(ft)           |                                                                                   | 12                                                                                | 12                                                                                |                                                                                   | 0                                                                                 |                                                                                   |
| Link Offset(ft)            |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 |                                                                                   |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                | 16                                                                                |                                                                                   | 16                                                                                |                                                                                   |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (mph)        | 15                                                                                |                                                                                   |                                                                                   | 9                                                                                 | 15                                                                                | 9                                                                                 |
| Turn Type                  | pm+pt                                                                             | NA                                                                                | NA                                                                                |                                                                                   |                                                                                   | Over                                                                              |
| Protected Phases           | 5                                                                                 | 2                                                                                 | 6                                                                                 |                                                                                   |                                                                                   | 5                                                                                 |
| Permitted Phases           | 2                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Detector Phase             | 5                                                                                 | 2                                                                                 | 6                                                                                 |                                                                                   |                                                                                   | 5                                                                                 |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Minimum Initial (s)        | 6.0                                                                               | 10.0                                                                              | 10.0                                                                              |                                                                                   |                                                                                   | 6.0                                                                               |
| Minimum Split (s)          | 11.0                                                                              | 15.0                                                                              | 15.0                                                                              |                                                                                   |                                                                                   | 11.0                                                                              |
| Total Split (s)            | 53.0                                                                              | 110.0                                                                             | 57.0                                                                              |                                                                                   |                                                                                   | 53.0                                                                              |
| Total Split (%)            | 48.2%                                                                             | 100.0%                                                                            | 51.8%                                                                             |                                                                                   |                                                                                   | 48.2%                                                                             |
| Maximum Green (s)          | 48.0                                                                              | 105.0                                                                             | 52.0                                                                              |                                                                                   |                                                                                   | 48.0                                                                              |
| Yellow Time (s)            | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               |                                                                                   |                                                                                   | 4.0                                                                               |
| All-Red Time (s)           | 1.0                                                                               | 1.0                                                                               | 1.0                                                                               |                                                                                   |                                                                                   | 1.0                                                                               |
| Lost Time Adjust (s)       | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |
| Total Lost Time (s)        | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               |                                                                                   |                                                                                   | 5.0                                                                               |
| Lead/Lag                   | Lead                                                                              |                                                                                   | Lag                                                                               |                                                                                   |                                                                                   | Lead                                                                              |
| Lead-Lag Optimize?         | Yes                                                                               |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |
| Vehicle Extension (s)      | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               |                                                                                   |                                                                                   | 3.0                                                                               |
| Recall Mode                | None                                                                              | C-Max                                                                             | C-Max                                                                             |                                                                                   |                                                                                   | None                                                                              |
| Act Effct Green (s)        | 105.0                                                                             | 110.0                                                                             | 52.0                                                                              |                                                                                   |                                                                                   | 48.0                                                                              |
| Actuated g/C Ratio         | 0.95                                                                              | 1.00                                                                              | 0.47                                                                              |                                                                                   |                                                                                   | 0.44                                                                              |
| v/c Ratio                  | 0.38                                                                              | 0.34                                                                              | 0.95                                                                              |                                                                                   |                                                                                   | 1.04                                                                              |



## Lanes, Volumes, Timings

#### 4: Route 31 & Lakeshore Road

07/05/2022

|                         |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | WBT                                                                               | WBR                                                                               | SBL                                                                               | SBR                                                                               |
| Control Delay           | 10.6                                                                              | 0.2                                                                               | 48.8                                                                              |                                                                                   |                                                                                   | 69.8                                                                              |
| Queue Delay             | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |
| Total Delay             | 10.6                                                                              | 0.2                                                                               | 48.8                                                                              |                                                                                   |                                                                                   | 69.8                                                                              |
| LOS                     | B                                                                                 | A                                                                                 | D                                                                                 |                                                                                   |                                                                                   | E                                                                                 |
| Approach Delay          |                                                                                   | 2.4                                                                               | 48.8                                                                              |                                                                                   | 69.8                                                                              |                                                                                   |
| Approach LOS            |                                                                                   | A                                                                                 | D                                                                                 |                                                                                   | E                                                                                 |                                                                                   |
| Queue Length 50th (ft)  | 44                                                                                | 0                                                                                 | 541                                                                               |                                                                                   |                                                                                   | ~562                                                                              |
| Queue Length 95th (ft)  | 68                                                                                | 0                                                                                 | #698                                                                              |                                                                                   |                                                                                   | #802                                                                              |
| Internal Link Dist (ft) |                                                                                   | 1002                                                                              | 879                                                                               |                                                                                   | 882                                                                               |                                                                                   |
| Turn Bay Length (ft)    | 225                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Base Capacity (vph)     | 839                                                                               | 3539                                                                              | 872                                                                               |                                                                                   |                                                                                   | 770                                                                               |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |
| Reduced v/c Ratio       | 0.38                                                                              | 0.34                                                                              | 0.95                                                                              |                                                                                   |                                                                                   | 1.04                                                                              |

### Intersection Summary

Area Type:  Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 19 (17%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.04

Intersection Signal Delay: 31.9

Intersection LOS: C

Intersection Capacity Utilization 90.5%

ICU Level of Service E

Analysis Period (min) 15

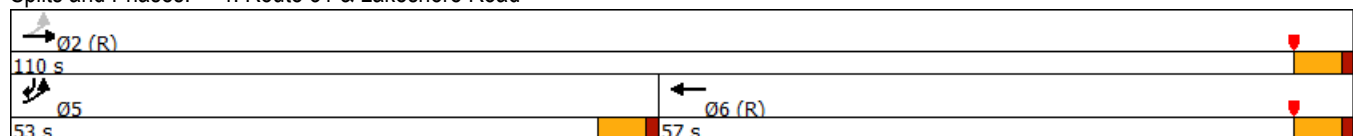
- ~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 4: Route 31 & Lakeshore Road





Lanes, Volumes, Timings  
5: South Bay Road & Route 31

07/05/2022

|                            |  |  |  |  |  |  |   |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |  |  |                                                                                   |  |  |                                                                                   |  |  |  |  |  |  |
| Traffic Volume (vph)       | 62                                                                                | 221                                                                               | 70                                                                                | 165                                                                               | 226                                                                               | 6                                                                                 | 64                                                                                 | 188                                                                                 | 73                                                                                  | 7                                                                                   | 423                                                                                 | 115                                                                                 |
| Future Volume (vph)        | 62                                                                                | 221                                                                               | 70                                                                                | 165                                                                               | 226                                                                               | 6                                                                                 | 64                                                                                 | 188                                                                                 | 73                                                                                  | 7                                                                                   | 423                                                                                 | 115                                                                                 |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                               | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 225                                                                               |                                                                                   | 0                                                                                 | 225                                                                               |                                                                                   | 0                                                                                 | 280                                                                                |                                                                                     | 150                                                                                 | 225                                                                                 |                                                                                     | 0                                                                                   |
| Storage Lanes              | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                  |                                                                                     | 1                                                                                   | 1                                                                                   |                                                                                     | 0                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                 |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 1719                                                                              | 1744                                                                              | 0                                                                                 | 1770                                                                              | 1855                                                                              | 0                                                                                 | 1719                                                                               | 1810                                                                                | 1538                                                                                | 1770                                                                                | 1803                                                                                | 0                                                                                   |
| Flt Permitted              | 0.601                                                                             |                                                                                   |                                                                                   | 0.315                                                                             |                                                                                   |                                                                                   | 0.160                                                                              |                                                                                     |                                                                                     | 0.619                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)          | 1088                                                                              | 1744                                                                              | 0                                                                                 | 587                                                                               | 1855                                                                              | 0                                                                                 | 290                                                                                | 1810                                                                                | 1538                                                                                | 1153                                                                                | 1803                                                                                | 0                                                                                   |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                    |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   | 14                                                                                |                                                                                   |                                                                                   | 1                                                                                 |                                                                                   |                                                                                    |                                                                                     | 137                                                                                 |                                                                                     | 15                                                                                  |                                                                                     |
| Link Speed (mph)           |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 55                                                                                |                                                                                   |                                                                                    | 45                                                                                  |                                                                                     |                                                                                     | 45                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 788                                                                               |                                                                                   |                                                                                   | 825                                                                               |                                                                                   |                                                                                    | 794                                                                                 |                                                                                     |                                                                                     | 652                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 11.9                                                                              |                                                                                   |                                                                                   | 10.2                                                                              |                                                                                   |                                                                                    | 12.0                                                                                |                                                                                     |                                                                                     | 9.9                                                                                 |                                                                                     |
| Peak Hour Factor           | 0.91                                                                              | 0.91                                                                              | 0.91                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.84                                                                               | 0.84                                                                                | 0.84                                                                                | 0.89                                                                                | 0.89                                                                                | 0.89                                                                                |
| Heavy Vehicles (%)         | 5%                                                                                | 5%                                                                                | 5%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 5%                                                                                 | 5%                                                                                  | 5%                                                                                  | 2%                                                                                  | 2%                                                                                  | 2%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 68                                                                                | 320                                                                               | 0                                                                                 | 179                                                                               | 253                                                                               | 0                                                                                 | 76                                                                                 | 224                                                                                 | 87                                                                                  | 8                                                                                   | 604                                                                                 | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                 | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                               | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                    | 12                                                                                  |                                                                                     |                                                                                     | 12                                                                                  |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                    | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                    | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                 |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                              | NA                                                                                  | Perm                                                                                | pm+pt                                                                               | NA                                                                                  |                                                                                     |
| Protected Phases           | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 3                                                                                  | 8                                                                                   |                                                                                     | 7                                                                                   | 4                                                                                   |                                                                                     |
| Permitted Phases           | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                  |                                                                                     | 8                                                                                   | 4                                                                                   |                                                                                     |                                                                                     |
| Detector Phase             | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 3                                                                                  | 8                                                                                   | 8                                                                                   | 7                                                                                   | 4                                                                                   |                                                                                     |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 6.0                                                                               | 15.0                                                                              |                                                                                   | 6.0                                                                               | 15.0                                                                              |                                                                                   | 6.0                                                                                | 10.0                                                                                | 10.0                                                                                | 6.0                                                                                 | 10.0                                                                                |                                                                                     |
| Minimum Split (s)          | 10.5                                                                              | 22.8                                                                              |                                                                                   | 10.5                                                                              | 22.8                                                                              |                                                                                   | 10.5                                                                               | 16.8                                                                                | 16.8                                                                                | 10.5                                                                                | 16.8                                                                                |                                                                                     |
| Total Split (s)            | 10.6                                                                              | 36.4                                                                              |                                                                                   | 13.0                                                                              | 38.8                                                                              |                                                                                   | 10.6                                                                               | 50.0                                                                                | 50.0                                                                                | 10.6                                                                                | 50.0                                                                                |                                                                                     |
| Total Split (%)            | 9.6%                                                                              | 33.1%                                                                             |                                                                                   | 11.8%                                                                             | 35.3%                                                                             |                                                                                   | 9.6%                                                                               | 45.5%                                                                               | 45.5%                                                                               | 9.6%                                                                                | 45.5%                                                                               |                                                                                     |
| Maximum Green (s)          | 6.1                                                                               | 28.6                                                                              |                                                                                   | 8.5                                                                               | 31.0                                                                              |                                                                                   | 6.1                                                                                | 43.2                                                                                | 43.2                                                                                | 6.1                                                                                 | 43.2                                                                                |                                                                                     |
| Yellow Time (s)            | 3.5                                                                               | 4.9                                                                               |                                                                                   | 3.5                                                                               | 4.9                                                                               |                                                                                   | 3.5                                                                                | 4.9                                                                                 | 4.9                                                                                 | 3.5                                                                                 | 4.9                                                                                 |                                                                                     |
| All-Red Time (s)           | 1.0                                                                               | 2.9                                                                               |                                                                                   | 1.0                                                                               | 2.9                                                                               |                                                                                   | 1.0                                                                                | 1.9                                                                                 | 1.9                                                                                 | 1.0                                                                                 | 1.9                                                                                 |                                                                                     |
| Lost Time Adjust (s)       | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                                | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)        | 4.5                                                                               | 7.8                                                                               |                                                                                   | 4.5                                                                               | 7.8                                                                               |                                                                                   | 4.5                                                                                | 6.8                                                                                 | 6.8                                                                                 | 4.5                                                                                 | 6.8                                                                                 |                                                                                     |
| Lead/Lag                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                               | Lag                                                                                 | Lag                                                                                 | Lead                                                                                | Lag                                                                                 |                                                                                     |
| Lead-Lag Optimize?         | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                                | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 |                                                                                     |
| Vehicle Extension (s)      | 3.0                                                                               | 6.0                                                                               |                                                                                   | 3.0                                                                               | 6.0                                                                               |                                                                                   | 3.0                                                                                | 6.0                                                                                 | 6.0                                                                                 | 3.0                                                                                 | 6.0                                                                                 |                                                                                     |
| Minimum Gap (s)            | 3.0                                                                               | 2.0                                                                               |                                                                                   | 3.0                                                                               | 2.0                                                                               |                                                                                   | 3.0                                                                                | 2.0                                                                                 | 2.0                                                                                 | 3.0                                                                                 | 2.0                                                                                 |                                                                                     |
| Time Before Reduce (s)     | 0.0                                                                               | 10.0                                                                              |                                                                                   | 0.0                                                                               | 10.0                                                                              |                                                                                   | 0.0                                                                                | 10.0                                                                                | 10.0                                                                                | 0.0                                                                                 | 10.0                                                                                |                                                                                     |
| Time To Reduce (s)         | 0.0                                                                               | 15.0                                                                              |                                                                                   | 0.0                                                                               | 15.0                                                                              |                                                                                   | 0.0                                                                                | 15.0                                                                                | 15.0                                                                                | 0.0                                                                                 | 15.0                                                                                |                                                                                     |
| Recall Mode                | None                                                                              | Min                                                                               |                                                                                   | None                                                                              | Min                                                                               |                                                                                   | None                                                                               | None                                                                                | None                                                                                | None                                                                                | None                                                                                |                                                                                     |
| Act Effect Green (s)       | 33.7                                                                              | 23.9                                                                              |                                                                                   | 39.0                                                                              | 29.3                                                                              |                                                                                   | 47.5                                                                               | 44.0                                                                                | 44.0                                                                                | 44.9                                                                                | 38.0                                                                                |                                                                                     |



# Lanes, Volumes, Timings

## 5: South Bay Road & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Actuated g/C Ratio      | 0.34                                                                              | 0.24                                                                              |                                                                                   | 0.40                                                                              | 0.30                                                                              |                                                                                   | 0.48                                                                               | 0.45                                                                                | 0.45                                                                                | 0.46                                                                                | 0.39                                                                                |                                                                                     |
| v/c Ratio               | 0.16                                                                              | 0.74                                                                              |                                                                                   | 0.53                                                                              | 0.46                                                                              |                                                                                   | 0.33                                                                               | 0.28                                                                                | 0.11                                                                                | 0.01                                                                                | 0.85                                                                                |                                                                                     |
| Control Delay           | 21.4                                                                              | 45.2                                                                              |                                                                                   | 27.7                                                                              | 34.4                                                                              |                                                                                   | 17.5                                                                               | 19.2                                                                                | 1.2                                                                                 | 13.3                                                                                | 41.2                                                                                |                                                                                     |
| Queue Delay             | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                                | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Delay             | 21.4                                                                              | 45.2                                                                              |                                                                                   | 27.7                                                                              | 34.4                                                                              |                                                                                   | 17.5                                                                               | 19.2                                                                                | 1.2                                                                                 | 13.3                                                                                | 41.2                                                                                |                                                                                     |
| LOS                     | C                                                                                 | D                                                                                 |                                                                                   | C                                                                                 | C                                                                                 |                                                                                   | B                                                                                  | B                                                                                   | A                                                                                   | B                                                                                   | D                                                                                   |                                                                                     |
| Approach Delay          |                                                                                   | 41.0                                                                              |                                                                                   |                                                                                   | 31.6                                                                              |                                                                                   |                                                                                    | 14.8                                                                                |                                                                                     |                                                                                     | 40.9                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                    | B                                                                                   |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 29                                                                                | 196                                                                               |                                                                                   | 82                                                                                | 148                                                                               |                                                                                   | 25                                                                                 | 85                                                                                  | 0                                                                                   | 3                                                                                   | 360                                                                                 |                                                                                     |
| Queue Length 95th (ft)  | 58                                                                                | 297                                                                               |                                                                                   | 134                                                                               | 228                                                                               |                                                                                   | 48                                                                                 | 156                                                                                 | 4                                                                                   | 11                                                                                  | #560                                                                                |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 708                                                                               |                                                                                   |                                                                                   | 745                                                                               |                                                                                   |                                                                                    | 714                                                                                 |                                                                                     |                                                                                     | 572                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 225                                                                               |                                                                                   |                                                                                   | 225                                                                               |                                                                                   |                                                                                   | 280                                                                                |                                                                                     | 150                                                                                 | 225                                                                                 |                                                                                     |                                                                                     |
| Base Capacity (vph)     | 413                                                                               | 535                                                                               |                                                                                   | 339                                                                               | 607                                                                               |                                                                                   | 232                                                                                | 909                                                                                 | 841                                                                                 | 567                                                                                 | 830                                                                                 |                                                                                     |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       | 0.16                                                                              | 0.60                                                                              |                                                                                   | 0.53                                                                              | 0.42                                                                              |                                                                                   | 0.33                                                                               | 0.25                                                                                | 0.10                                                                                | 0.01                                                                                | 0.73                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 98.2

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 33.2

Intersection LOS: C

Intersection Capacity Utilization 79.0%

ICU Level of Service D

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

### Splits and Phases: 5: South Bay Road & Route 31

|                                                                                     |                                                                                     |                                                                                     |                                                                                     |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  |  |  |  |
| Ø1                                                                                  | Ø2                                                                                  | Ø3                                                                                  | Ø4                                                                                  |
| 13 s                                                                                | 36.4 s                                                                              | 10.6 s                                                                              | 50 s                                                                                |
|  |  |  |  |
| Ø5                                                                                  | Ø6                                                                                  | Ø7                                                                                  | Ø8                                                                                  |
| 10.6 s                                                                              | 38.8 s                                                                              | 10.6 s                                                                              | 50 s                                                                                |



Lanes, Volumes, Timings  
6: Cicero Center Road & Route 31

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (vph)       | 35                                                                                | 241                                                                               | 14                                                                                | 8                                                                                 | 274                                                                               | 20                                                                                | 9                                                                                 | 8                                                                                   | 5                                                                                   | 36                                                                                  | 29                                                                                  | 78                                                                                  |
| Future Volume (vph)        | 35                                                                                | 241                                                                               | 14                                                                                | 8                                                                                 | 274                                                                               | 20                                                                                | 9                                                                                 | 8                                                                                   | 5                                                                                   | 36                                                                                  | 29                                                                                  | 78                                                                                  |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Satd. Flow (prot)          | 0                                                                                 | 1840                                                                              | 0                                                                                 | 0                                                                                 | 1844                                                                              | 0                                                                                 | 0                                                                                 | 1785                                                                                | 0                                                                                   | 0                                                                                   | 1721                                                                                | 0                                                                                   |
| Flt Permitted              |                                                                                   | 0.934                                                                             |                                                                                   |                                                                                   | 0.990                                                                             |                                                                                   |                                                                                   | 0.840                                                                               |                                                                                     |                                                                                     | 0.906                                                                               |                                                                                     |
| Satd. Flow (perm)          | 0                                                                                 | 1729                                                                              | 0                                                                                 | 0                                                                                 | 1828                                                                              | 0                                                                                 | 0                                                                                 | 1530                                                                                | 0                                                                                   | 0                                                                                   | 1578                                                                                | 0                                                                                   |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   | 7                                                                                 |                                                                                   |                                                                                   | 10                                                                                |                                                                                   |                                                                                   | 6                                                                                   |                                                                                     |                                                                                     | 108                                                                                 |                                                                                     |
| Link Speed (mph)           |                                                                                   | 55                                                                                |                                                                                   |                                                                                   | 55                                                                                |                                                                                   |                                                                                   | 55                                                                                  |                                                                                     |                                                                                     | 55                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 583                                                                               |                                                                                   |                                                                                   | 608                                                                               |                                                                                   |                                                                                   | 500                                                                                 |                                                                                     |                                                                                     | 505                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 7.2                                                                               |                                                                                   |                                                                                   | 7.5                                                                               |                                                                                   |                                                                                   | 6.2                                                                                 |                                                                                     |                                                                                     | 6.3                                                                                 |                                                                                     |
| Peak Hour Factor           | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                                | 0.90                                                                                | 0.72                                                                                | 0.72                                                                                | 0.72                                                                                |
| Heavy Vehicles (%)         | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 1%                                                                                | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 0                                                                                 | 312                                                                               | 0                                                                                 | 0                                                                                 | 335                                                                               | 0                                                                                 | 0                                                                                 | 25                                                                                  | 0                                                                                   | 0                                                                                   | 198                                                                                 | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                  |                                                                                     | Perm                                                                                | NA                                                                                  |                                                                                     |
| Protected Phases           |                                                                                   | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                   |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |
| Permitted Phases           | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |                                                                                     |
| Detector Phase             | 2                                                                                 | 2                                                                                 |                                                                                   | 6                                                                                 | 6                                                                                 |                                                                                   | 8                                                                                 | 8                                                                                   |                                                                                     | 4                                                                                   | 4                                                                                   |                                                                                     |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 15.0                                                                              | 15.0                                                                              |                                                                                   | 15.0                                                                              | 15.0                                                                              |                                                                                   | 7.0                                                                               | 7.0                                                                                 |                                                                                     | 7.0                                                                                 | 7.0                                                                                 |                                                                                     |
| Minimum Split (s)          | 21.0                                                                              | 21.0                                                                              |                                                                                   | 21.0                                                                              | 21.0                                                                              |                                                                                   | 12.0                                                                              | 12.0                                                                                |                                                                                     | 12.0                                                                                | 12.0                                                                                |                                                                                     |
| Total Split (s)            | 30.0                                                                              | 30.0                                                                              |                                                                                   | 30.0                                                                              | 30.0                                                                              |                                                                                   | 20.0                                                                              | 20.0                                                                                |                                                                                     | 20.0                                                                                | 20.0                                                                                |                                                                                     |
| Total Split (%)            | 60.0%                                                                             | 60.0%                                                                             |                                                                                   | 60.0%                                                                             | 60.0%                                                                             |                                                                                   | 40.0%                                                                             | 40.0%                                                                               |                                                                                     | 40.0%                                                                               | 40.0%                                                                               |                                                                                     |
| Maximum Green (s)          | 24.0                                                                              | 24.0                                                                              |                                                                                   | 24.0                                                                              | 24.0                                                                              |                                                                                   | 15.0                                                                              | 15.0                                                                                |                                                                                     | 15.0                                                                                | 15.0                                                                                |                                                                                     |
| Yellow Time (s)            | 4.0                                                                               | 4.0                                                                               |                                                                                   | 4.0                                                                               | 4.0                                                                               |                                                                                   | 4.0                                                                               | 4.0                                                                                 |                                                                                     | 4.0                                                                                 | 4.0                                                                                 |                                                                                     |
| All-Red Time (s)           | 2.0                                                                               | 2.0                                                                               |                                                                                   | 2.0                                                                               | 2.0                                                                               |                                                                                   | 1.0                                                                               | 1.0                                                                                 |                                                                                     | 1.0                                                                                 | 1.0                                                                                 |                                                                                     |
| Lost Time Adjust (s)       |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                                 |                                                                                     |                                                                                     | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)        |                                                                                   | 6.0                                                                               |                                                                                   |                                                                                   | 6.0                                                                               |                                                                                   |                                                                                   | 5.0                                                                                 |                                                                                     |                                                                                     | 5.0                                                                                 |                                                                                     |
| Lead/Lag                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?         |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Vehicle Extension (s)      | 5.0                                                                               | 5.0                                                                               |                                                                                   | 5.0                                                                               | 5.0                                                                               |                                                                                   | 2.0                                                                               | 2.0                                                                                 |                                                                                     | 2.0                                                                                 | 2.0                                                                                 |                                                                                     |
| Recall Mode                | Max                                                                               | Max                                                                               |                                                                                   | Max                                                                               | Max                                                                               |                                                                                   | None                                                                              | None                                                                                |                                                                                     | None                                                                                | None                                                                                |                                                                                     |
| Act Effct Green (s)        |                                                                                   | 28.2                                                                              |                                                                                   |                                                                                   | 28.2                                                                              |                                                                                   |                                                                                   | 8.3                                                                                 |                                                                                     |                                                                                     | 8.3                                                                                 |                                                                                     |
| Actuated g/C Ratio         |                                                                                   | 0.64                                                                              |                                                                                   |                                                                                   | 0.64                                                                              |                                                                                   |                                                                                   | 0.19                                                                                |                                                                                     |                                                                                     | 0.19                                                                                |                                                                                     |
| v/c Ratio                  |                                                                                   | 0.28                                                                              |                                                                                   |                                                                                   | 0.29                                                                              |                                                                                   |                                                                                   | 0.09                                                                                |                                                                                     |                                                                                     | 0.51                                                                                |                                                                                     |
| Control Delay              |                                                                                   | 6.2                                                                               |                                                                                   |                                                                                   | 6.1                                                                               |                                                                                   |                                                                                   | 12.9                                                                                |                                                                                     |                                                                                     | 13.0                                                                                |                                                                                     |
| Queue Delay                |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                                 |                                                                                     |                                                                                     | 0.0                                                                                 |                                                                                     |
| Total Delay                |                                                                                   | 6.2                                                                               |                                                                                   |                                                                                   | 6.1                                                                               |                                                                                   |                                                                                   | 12.9                                                                                |                                                                                     |                                                                                     | 13.0                                                                                |                                                                                     |
| LOS                        |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | B                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |



# Lanes, Volumes, Timings

## 6: Cicero Center Road & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Approach Delay          |                                                                                   | 6.2                                                                               |                                                                                   |                                                                                   | 6.1                                                                               |                                                                                   |                                                                                   | 12.9                                                                                |                                                                                     |                                                                                     | 13.0                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | B                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| Queue Length 50th (ft)  |                                                                                   | 31                                                                                |                                                                                   |                                                                                   | 33                                                                                |                                                                                   |                                                                                   | 4                                                                                   |                                                                                     |                                                                                     | 19                                                                                  |                                                                                     |
| Queue Length 95th (ft)  |                                                                                   | 83                                                                                |                                                                                   |                                                                                   | 87                                                                                |                                                                                   |                                                                                   | 17                                                                                  |                                                                                     |                                                                                     | 41                                                                                  |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 503                                                                               |                                                                                   |                                                                                   | 528                                                                               |                                                                                   |                                                                                   | 420                                                                                 |                                                                                     |                                                                                     | 425                                                                                 |                                                                                     |
| Turn Bay Length (ft)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Base Capacity (vph)     |                                                                                   | 1109                                                                              |                                                                                   |                                                                                   | 1173                                                                              |                                                                                   |                                                                                   | 527                                                                                 |                                                                                     |                                                                                     | 610                                                                                 |                                                                                     |
| Starvation Cap Reductn  |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       |                                                                                   | 0.28                                                                              |                                                                                   |                                                                                   | 0.29                                                                              |                                                                                   |                                                                                   | 0.05                                                                                |                                                                                     |                                                                                     | 0.32                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Cycle Length: 50

Actuated Cycle Length: 44

Natural Cycle: 40

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.51

Intersection Signal Delay: 7.9

Intersection Capacity Utilization 49.5%

Analysis Period (min) 15

Intersection LOS: A

ICU Level of Service A

Splits and Phases: 6: Cicero Center Road & Route 31

|                                                                                        |  |                                                                                        |
|----------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------|
|  Ø2 |  |  Ø4 |
| 30 s                                                                                   |  | 20 s                                                                                   |
|  Ø6 |  |  Ø8 |
| 30 s                                                                                   |  | 20 s                                                                                   |



Lanes, Volumes, Timings  
7: Route 31 & Lakeshore Road (East)

07/05/2022

|                            |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | WBT                                                                               | WBR                                                                               | SBL                                                                               | SBR                                                                               |
| Lane Configurations        |                                                                                   |  |  |                                                                                   |  |                                                                                   |
| Traffic Volume (vph)       | 17                                                                                | 263                                                                               | 288                                                                               | 47                                                                                | 59                                                                                | 35                                                                                |
| Future Volume (vph)        | 17                                                                                | 263                                                                               | 288                                                                               | 47                                                                                | 59                                                                                | 35                                                                                |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Satd. Flow (prot)          | 0                                                                                 | 1876                                                                              | 1845                                                                              | 0                                                                                 | 1732                                                                              | 0                                                                                 |
| Flt Permitted              |                                                                                   | 0.997                                                                             |                                                                                   |                                                                                   | 0.969                                                                             |                                                                                   |
| Satd. Flow (perm)          | 0                                                                                 | 1876                                                                              | 1845                                                                              | 0                                                                                 | 1732                                                                              | 0                                                                                 |
| Link Speed (mph)           |                                                                                   | 55                                                                                | 55                                                                                |                                                                                   | 35                                                                                |                                                                                   |
| Link Distance (ft)         |                                                                                   | 516                                                                               | 592                                                                               |                                                                                   | 420                                                                               |                                                                                   |
| Travel Time (s)            |                                                                                   | 6.4                                                                               | 7.3                                                                               |                                                                                   | 8.2                                                                               |                                                                                   |
| Confl. Peds. (#/hr)        |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 2                                                                                 |
| Peak Hour Factor           | 0.88                                                                              | 0.88                                                                              | 0.90                                                                              | 0.90                                                                              | 0.79                                                                              | 0.79                                                                              |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)      | 0                                                                                 | 318                                                                               | 372                                                                               | 0                                                                                 | 119                                                                               | 0                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment             | Left                                                                              | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Right                                                                             |
| Median Width(ft)           |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 12                                                                                |                                                                                   |
| Link Offset(ft)            |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 |                                                                                   |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                | 16                                                                                |                                                                                   | 16                                                                                |                                                                                   |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (mph)        | 15                                                                                |                                                                                   |                                                                                   | 9                                                                                 | 15                                                                                | 9                                                                                 |
| Sign Control               |                                                                                   | Free                                                                              | Free                                                                              |                                                                                   | Stop                                                                              |                                                                                   |

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 40.4%

ICU Level of Service A

Analysis Period (min) 15



HCM 6th TWSC  
7: Route 31 & Lakeshore Road (East)

07/05/2022

Intersection

Int Delay, s/veh 2.4

| Movement                 | EBL  | EBT                                                                               | WBT                                                                               | WBR  | SBL                                                                               | SBR  |
|--------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|------|
| Lane Configurations      |      |  |  |      |  |      |
| Traffic Vol, veh/h       | 17   | 263                                                                               | 288                                                                               | 47   | 59                                                                                | 35   |
| Future Vol, veh/h        | 17   | 263                                                                               | 288                                                                               | 47   | 59                                                                                | 35   |
| Conflicting Peds, #/hr   | 0    | 0                                                                                 | 0                                                                                 | 0    | 0                                                                                 | 2    |
| Sign Control             | Free | Free                                                                              | Free                                                                              | Free | Stop                                                                              | Stop |
| RT Channelized           | -    | None                                                                              | -                                                                                 | None | -                                                                                 | None |
| Storage Length           | -    | -                                                                                 | -                                                                                 | -    | 0                                                                                 | -    |
| Veh in Median Storage, # | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Grade, %                 | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Peak Hour Factor         | 88   | 88                                                                                | 90                                                                                | 90   | 79                                                                                | 79   |
| Heavy Vehicles, %        | 1    | 1                                                                                 | 1                                                                                 | 1    | 1                                                                                 | 1    |
| Mvmt Flow                | 19   | 299                                                                               | 320                                                                               | 52   | 75                                                                                | 44   |

| Major/Minor          | Major1 | Major2 | Minor2        |
|----------------------|--------|--------|---------------|
| Conflicting Flow All | 372    | 0      | 0 683 348     |
| Stage 1              | -      | -      | - 346 -       |
| Stage 2              | -      | -      | - 337 -       |
| Critical Hdwy        | 4.11   | -      | - 6.41 6.21   |
| Critical Hdwy Stg 1  | -      | -      | - 5.41 -      |
| Critical Hdwy Stg 2  | -      | -      | - 5.41 -      |
| Follow-up Hdwy       | 2.209  | -      | - 3.509 3.309 |
| Pot Cap-1 Maneuver   | 1192   | -      | - 416 697     |
| Stage 1              | -      | -      | - 719 -       |
| Stage 2              | -      | -      | - 725 -       |
| Platoon blocked, %   | -      | -      | -             |
| Mov Cap-1 Maneuver   | 1192   | -      | - 408 696     |
| Mov Cap-2 Maneuver   | -      | -      | - 408 -       |
| Stage 1              | -      | -      | - 705 -       |
| Stage 2              | -      | -      | - 725 -       |

| Approach             | EB  | WB | SB   |
|----------------------|-----|----|------|
| HCM Control Delay, s | 0.5 | 0  | 14.9 |
| HCM LOS              |     |    | B    |

| Minor Lane/Major Mvmt | EBL   | EBT | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-----|-------|
| Capacity (veh/h)      | 1192  | -   | -   | -   | 482   |
| HCM Lane V/C Ratio    | 0.016 | -   | -   | -   | 0.247 |
| HCM Control Delay (s) | 8.1   | 0   | -   | -   | 14.9  |
| HCM Lane LOS          | A     | A   | -   | -   | B     |
| HCM 95th %tile Q(veh) | 0     | -   | -   | -   | 1     |



# Lanes, Volumes, Timings

## 8: Thompson Road & South Bay Road

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |  |  |                                                                                   |  |  |                                                                                   |                                                                                   |  |  |                                                                                     |  |  |
| Traffic Volume (vph)       | 260                                                                               | 316                                                                               | 6                                                                                 | 334                                                                               | 319                                                                               | 7                                                                                 | 7                                                                                 | 195                                                                                 | 217                                                                                 | 7                                                                                   | 206                                                                                 | 177                                                                                 |
| Future Volume (vph)        | 260                                                                               | 316                                                                               | 6                                                                                 | 334                                                                               | 319                                                                               | 7                                                                                 | 7                                                                                 | 195                                                                                 | 217                                                                                 | 7                                                                                   | 206                                                                                 | 177                                                                                 |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 300                                                                               |                                                                                   | 0                                                                                 | 250                                                                               |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                     | 210                                                                                 | 0                                                                                   |                                                                                     | 600                                                                                 |
| Storage Lanes              | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                     | 1                                                                                   | 0                                                                                   |                                                                                     | 1                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 1787                                                                              | 1876                                                                              | 0                                                                                 | 1787                                                                              | 1875                                                                              | 0                                                                                 | 0                                                                                 | 1841                                                                                | 1568                                                                                | 0                                                                                   | 1859                                                                                | 1583                                                                                |
| Flt Permitted              | 0.370                                                                             |                                                                                   |                                                                                   | 0.352                                                                             |                                                                                   |                                                                                   |                                                                                   | 0.984                                                                               |                                                                                     |                                                                                     | 0.985                                                                               |                                                                                     |
| Satd. Flow (perm)          | 696                                                                               | 1876                                                                              | 0                                                                                 | 662                                                                               | 1875                                                                              | 0                                                                                 | 0                                                                                 | 1815                                                                                | 1568                                                                                | 0                                                                                   | 1835                                                                                | 1583                                                                                |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   | 1                                                                                 |                                                                                   |                                                                                   | 1                                                                                 |                                                                                   |                                                                                   |                                                                                     | 257                                                                                 |                                                                                     |                                                                                     | 201                                                                                 |
| Link Speed (mph)           |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 45                                                                                  |                                                                                     |                                                                                     | 45                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 1324                                                                              |                                                                                   |                                                                                   | 1155                                                                              |                                                                                   |                                                                                   | 1095                                                                                |                                                                                     |                                                                                     | 1033                                                                                |                                                                                     |
| Travel Time (s)            |                                                                                   | 20.1                                                                              |                                                                                   |                                                                                   | 17.5                                                                              |                                                                                   |                                                                                   | 16.6                                                                                |                                                                                     |                                                                                     | 15.7                                                                                |                                                                                     |
| Confl. Peds. (#/hr)        | 1                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1                                                                                 |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Peak Hour Factor           | 0.89                                                                              | 0.89                                                                              | 0.89                                                                              | 0.86                                                                              | 0.86                                                                              | 0.86                                                                              | 0.80                                                                              | 0.80                                                                                | 0.80                                                                                | 0.88                                                                                | 0.88                                                                                | 0.88                                                                                |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 3%                                                                                | 3%                                                                                  | 3%                                                                                  | 2%                                                                                  | 2%                                                                                  | 2%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 292                                                                               | 362                                                                               | 0                                                                                 | 388                                                                               | 379                                                                               | 0                                                                                 | 0                                                                                 | 253                                                                                 | 271                                                                                 | 0                                                                                   | 242                                                                                 | 201                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                             | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                  | pm+ov                                                                               | Perm                                                                                | NA                                                                                  | pm+ov                                                                               |
| Protected Phases           | 7                                                                                 | 4                                                                                 |                                                                                   | 3                                                                                 | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                   | 3                                                                                   |                                                                                     | 6                                                                                   | 7                                                                                   |
| Permitted Phases           | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                 |                                                                                     | 2                                                                                   | 6                                                                                   |                                                                                     | 6                                                                                   |
| Detector Phase             | 7                                                                                 | 4                                                                                 |                                                                                   | 3                                                                                 | 8                                                                                 |                                                                                   | 2                                                                                 | 2                                                                                   | 3                                                                                   | 6                                                                                   | 6                                                                                   | 7                                                                                   |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 5.0                                                                               | 10.0                                                                              |                                                                                   | 5.0                                                                               | 5.0                                                                               |                                                                                   | 10.0                                                                              | 10.0                                                                                | 5.0                                                                                 | 10.0                                                                                | 10.0                                                                                | 5.0                                                                                 |
| Minimum Split (s)          | 12.0                                                                              | 17.0                                                                              |                                                                                   | 12.0                                                                              | 12.0                                                                              |                                                                                   | 16.5                                                                              | 16.5                                                                                | 12.0                                                                                | 16.5                                                                                | 16.5                                                                                | 12.0                                                                                |
| Total Split (s)            | 21.0                                                                              | 31.0                                                                              |                                                                                   | 20.0                                                                              | 30.0                                                                              |                                                                                   | 24.0                                                                              | 24.0                                                                                | 20.0                                                                                | 24.0                                                                                | 24.0                                                                                | 21.0                                                                                |
| Total Split (%)            | 28.0%                                                                             | 41.3%                                                                             |                                                                                   | 26.7%                                                                             | 40.0%                                                                             |                                                                                   | 32.0%                                                                             | 32.0%                                                                               | 26.7%                                                                               | 32.0%                                                                               | 32.0%                                                                               | 28.0%                                                                               |
| Maximum Green (s)          | 14.0                                                                              | 24.0                                                                              |                                                                                   | 13.0                                                                              | 23.0                                                                              |                                                                                   | 17.5                                                                              | 17.5                                                                                | 13.0                                                                                | 17.5                                                                                | 17.5                                                                                | 14.0                                                                                |
| Yellow Time (s)            | 4.0                                                                               | 4.0                                                                               |                                                                                   | 4.0                                                                               | 4.0                                                                               |                                                                                   | 3.5                                                                               | 3.5                                                                                 | 4.0                                                                                 | 3.5                                                                                 | 3.5                                                                                 | 4.0                                                                                 |
| All-Red Time (s)           | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |
| Lost Time Adjust (s)       | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                                 | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |
| Total Lost Time (s)        | 7.0                                                                               | 7.0                                                                               |                                                                                   | 7.0                                                                               | 7.0                                                                               |                                                                                   |                                                                                   | 6.5                                                                                 | 7.0                                                                                 |                                                                                     | 6.5                                                                                 | 7.0                                                                                 |
| Lead/Lag                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                              | Lag                                                                               |                                                                                   |                                                                                   |                                                                                     | Lead                                                                                |                                                                                     |                                                                                     | Lead                                                                                |
| Lead-Lag Optimize?         | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                               | Yes                                                                               |                                                                                   |                                                                                   |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Vehicle Extension (s)      | 3.0                                                                               | 2.0                                                                               |                                                                                   | 3.0                                                                               | 2.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |
| Recall Mode                | None                                                                              | Min                                                                               |                                                                                   | None                                                                              | Min                                                                               |                                                                                   | Max                                                                               | Max                                                                                 | None                                                                                | Max                                                                                 | Max                                                                                 | None                                                                                |
| Act Effect Green (s)       | 29.0                                                                              | 17.5                                                                              |                                                                                   | 30.5                                                                              | 18.2                                                                              |                                                                                   |                                                                                   | 17.7                                                                                | 36.5                                                                                |                                                                                     | 17.7                                                                                | 35.8                                                                                |
| Actuated g/C Ratio         | 0.43                                                                              | 0.26                                                                              |                                                                                   | 0.45                                                                              | 0.27                                                                              |                                                                                   |                                                                                   | 0.26                                                                                | 0.54                                                                                |                                                                                     | 0.26                                                                                | 0.53                                                                                |
| v/c Ratio                  | 0.61                                                                              | 0.75                                                                              |                                                                                   | 0.78                                                                              | 0.75                                                                              |                                                                                   |                                                                                   | 0.54                                                                                | 0.28                                                                                |                                                                                     | 0.51                                                                                | 0.22                                                                                |



# Lanes, Volumes, Timings

## 8: Thompson Road & South Bay Road

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Control Delay           | 14.7                                                                              | 33.6                                                                              |                                                                                   | 22.9                                                                              | 33.5                                                                              |                                                                                   |                                                                                   | 28.3                                                                                | 2.7                                                                                 |                                                                                     | 27.6                                                                                | 2.3                                                                                 |
| Queue Delay             | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                                 | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |
| Total Delay             | 14.7                                                                              | 33.6                                                                              |                                                                                   | 22.9                                                                              | 33.5                                                                              |                                                                                   |                                                                                   | 28.3                                                                                | 2.7                                                                                 |                                                                                     | 27.6                                                                                | 2.3                                                                                 |
| LOS                     | B                                                                                 | C                                                                                 |                                                                                   | C                                                                                 | C                                                                                 |                                                                                   |                                                                                   | C                                                                                   | A                                                                                   |                                                                                     | C                                                                                   | A                                                                                   |
| Approach Delay          |                                                                                   | 25.1                                                                              |                                                                                   |                                                                                   | 28.1                                                                              |                                                                                   |                                                                                   | 15.1                                                                                |                                                                                     |                                                                                     | 16.1                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | B                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 61                                                                                | 140                                                                               |                                                                                   | 86                                                                                | 144                                                                               |                                                                                   |                                                                                   | 92                                                                                  | 2                                                                                   |                                                                                     | 87                                                                                  | 0                                                                                   |
| Queue Length 95th (ft)  | 99                                                                                | 222                                                                               |                                                                                   | #147                                                                              | 227                                                                               |                                                                                   |                                                                                   | 153                                                                                 | 26                                                                                  |                                                                                     | 165                                                                                 | 28                                                                                  |
| Internal Link Dist (ft) |                                                                                   | 1244                                                                              |                                                                                   |                                                                                   | 1075                                                                              |                                                                                   |                                                                                   | 1015                                                                                |                                                                                     |                                                                                     | 953                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 300                                                                               |                                                                                   |                                                                                   | 250                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 210                                                                                 |                                                                                     |                                                                                     | 600                                                                                 |
| Base Capacity (vph)     | 549                                                                               | 667                                                                               |                                                                                   | 521                                                                               | 639                                                                               |                                                                                   |                                                                                   | 470                                                                                 | 975                                                                                 |                                                                                     | 475                                                                                 | 979                                                                                 |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |
| Reduced v/c Ratio       | 0.53                                                                              | 0.54                                                                              |                                                                                   | 0.74                                                                              | 0.59                                                                              |                                                                                   |                                                                                   | 0.54                                                                                | 0.28                                                                                |                                                                                     | 0.51                                                                                | 0.21                                                                                |

### Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 68.1

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 22.2

Intersection LOS: C

Intersection Capacity Utilization 69.1%

ICU Level of Service C

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

### Splits and Phases: 8: Thompson Road & South Bay Road

|                                                                                        |                                                                                        |                                                                                        |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
|  Ø2 |  Ø3 |  Ø4 |
| 24 s                                                                                   | 20 s                                                                                   | 31 s                                                                                   |
|  Ø6 |  Ø7 |  Ø8 |
| 24 s                                                                                   | 21 s                                                                                   | 30 s                                                                                   |



# Lanes, Volumes, Timings

## 9: Lakeshore Road & Mudd Mill Road

07/05/2022

|                            |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | WBT                                                                               | WBR                                                                               | SBL                                                                               | SBR                                                                               |
| Lane Configurations        |                                                                                   |  |  |                                                                                   |  |                                                                                   |
| Traffic Volume (vph)       | 16                                                                                | 168                                                                               | 275                                                                               | 89                                                                                | 101                                                                               | 34                                                                                |
| Future Volume (vph)        | 16                                                                                | 168                                                                               | 275                                                                               | 89                                                                                | 101                                                                               | 34                                                                                |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Satd. Flow (prot)          | 0                                                                                 | 1820                                                                              | 1733                                                                              | 0                                                                                 | 1685                                                                              | 0                                                                                 |
| Flt Permitted              |                                                                                   | 0.996                                                                             |                                                                                   |                                                                                   | 0.964                                                                             |                                                                                   |
| Satd. Flow (perm)          | 0                                                                                 | 1820                                                                              | 1733                                                                              | 0                                                                                 | 1685                                                                              | 0                                                                                 |
| Link Speed (mph)           |                                                                                   | 35                                                                                | 35                                                                                |                                                                                   | 35                                                                                |                                                                                   |
| Link Distance (ft)         |                                                                                   | 753                                                                               | 701                                                                               |                                                                                   | 545                                                                               |                                                                                   |
| Travel Time (s)            |                                                                                   | 14.7                                                                              | 13.7                                                                              |                                                                                   | 10.6                                                                              |                                                                                   |
| Peak Hour Factor           | 0.87                                                                              | 0.87                                                                              | 0.85                                                                              | 0.85                                                                              | 0.91                                                                              | 0.91                                                                              |
| Heavy Vehicles (%)         | 4%                                                                                | 4%                                                                                | 6%                                                                                | 6%                                                                                | 5%                                                                                | 5%                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)      | 0                                                                                 | 211                                                                               | 429                                                                               | 0                                                                                 | 148                                                                               | 0                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment             | Left                                                                              | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Right                                                                             |
| Median Width(ft)           |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 12                                                                                |                                                                                   |
| Link Offset(ft)            |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 |                                                                                   |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                | 16                                                                                |                                                                                   | 16                                                                                |                                                                                   |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (mph)        | 15                                                                                |                                                                                   |                                                                                   | 9                                                                                 | 15                                                                                | 9                                                                                 |
| Sign Control               |                                                                                   | Free                                                                              | Free                                                                              |                                                                                   | Stop                                                                              |                                                                                   |

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 36.5%

ICU Level of Service A

Analysis Period (min) 15



HCM 6th TWSC  
9: Lakeshore Road & Mudd Mill Road

07/05/2022

Intersection

Int Delay, s/veh 3.1

| Movement                 | EBL  | EBT                                                                               | WBT                                                                               | WBR  | SBL                                                                               | SBR  |
|--------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|------|
| Lane Configurations      |      |  |  |      |  |      |
| Traffic Vol, veh/h       | 16   | 168                                                                               | 275                                                                               | 89   | 101                                                                               | 34   |
| Future Vol, veh/h        | 16   | 168                                                                               | 275                                                                               | 89   | 101                                                                               | 34   |
| Conflicting Peds, #/hr   | 0    | 0                                                                                 | 0                                                                                 | 0    | 0                                                                                 | 0    |
| Sign Control             | Free | Free                                                                              | Free                                                                              | Free | Stop                                                                              | Stop |
| RT Channelized           | -    | None                                                                              | -                                                                                 | None | -                                                                                 | None |
| Storage Length           | -    | -                                                                                 | -                                                                                 | -    | 0                                                                                 | -    |
| Veh in Median Storage, # | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Grade, %                 | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Peak Hour Factor         | 87   | 87                                                                                | 85                                                                                | 85   | 91                                                                                | 91   |
| Heavy Vehicles, %        | 4    | 4                                                                                 | 6                                                                                 | 6    | 5                                                                                 | 5    |
| Mvmt Flow                | 18   | 193                                                                               | 324                                                                               | 105  | 111                                                                               | 37   |

| Major/Minor          | Major1 | Major2 | Minor2 |
|----------------------|--------|--------|--------|
| Conflicting Flow All | 429    | 0      | 0      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |
| Critical Hdwy        | 4.14   | -      | -      |
| Critical Hdwy Stg 1  | -      | -      | -      |
| Critical Hdwy Stg 2  | -      | -      | -      |
| Follow-up Hdwy       | 2.236  | -      | -      |
| Pot Cap-1 Maneuver   | 1120   | -      | -      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |
| Platoon blocked, %   | -      | -      | -      |
| Mov Cap-1 Maneuver   | 1120   | -      | -      |
| Mov Cap-2 Maneuver   | -      | -      | -      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |

| Approach             | EB  | WB | SB   |
|----------------------|-----|----|------|
| HCM Control Delay, s | 0.7 | 0  | 15.6 |
| HCM LOS              |     |    | C    |

| Minor Lane/Major Mvmt | EBL   | EBT | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-----|-------|
| Capacity (veh/h)      | 1120  | -   | -   | -   | 487   |
| HCM Lane V/C Ratio    | 0.016 | -   | -   | -   | 0.305 |
| HCM Control Delay (s) | 8.3   | 0   | -   | -   | 15.6  |
| HCM Lane LOS          | A     | A   | -   | -   | C     |
| HCM 95th %tile Q(veh) | 0.1   | -   | -   | -   | 1.3   |



Lanes, Volumes, Timings  
10: South Bay Road & Lakeshore Road

07/05/2022

|                            |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                 | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations        |  |                                                                                   |                                                                                   |  |  |                                                                                   |
| Traffic Volume (vph)       | 198                                                                               | 3                                                                                 | 271                                                                               | 191                                                                               | 3                                                                                 | 220                                                                               |
| Future Volume (vph)        | 198                                                                               | 3                                                                                 | 271                                                                               | 191                                                                               | 3                                                                                 | 220                                                                               |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Satd. Flow (prot)          | 1806                                                                              | 0                                                                                 | 0                                                                                 | 1774                                                                              | 1567                                                                              | 0                                                                                 |
| Flt Permitted              |                                                                                   |                                                                                   |                                                                                   | 0.971                                                                             | 0.999                                                                             |                                                                                   |
| Satd. Flow (perm)          | 1806                                                                              | 0                                                                                 | 0                                                                                 | 1774                                                                              | 1567                                                                              | 0                                                                                 |
| Link Speed (mph)           | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                | 45                                                                                |                                                                                   |
| Link Distance (ft)         | 538                                                                               |                                                                                   |                                                                                   | 300                                                                               | 501                                                                               |                                                                                   |
| Travel Time (s)            | 10.5                                                                              |                                                                                   |                                                                                   | 5.8                                                                               | 7.6                                                                               |                                                                                   |
| Confl. Peds. (#/hr)        |                                                                                   | 1                                                                                 | 1                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Peak Hour Factor           | 0.78                                                                              | 0.78                                                                              | 0.84                                                                              | 0.84                                                                              | 0.92                                                                              | 0.92                                                                              |
| Heavy Vehicles (%)         | 5%                                                                                | 5%                                                                                | 4%                                                                                | 4%                                                                                | 5%                                                                                | 5%                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)      | 258                                                                               | 0                                                                                 | 0                                                                                 | 550                                                                               | 242                                                                               | 0                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment             | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Left                                                                              | Right                                                                             |
| Median Width(ft)           | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 | 12                                                                                |                                                                                   |
| Link Offset(ft)            | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |
| Crosswalk Width(ft)        | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                | 16                                                                                |                                                                                   |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (mph)        |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 15                                                                                | 9                                                                                 |
| Sign Control               | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              | Stop                                                                              |                                                                                   |

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 59.5%

ICU Level of Service B

Analysis Period (min) 15



HCM 6th TWSC  
10: South Bay Road & Lakeshore Road

07/05/2022

Intersection

| Int Delay, s/veh         | 5.5  |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      | 1    |      |      | 1    | 1    |      |
| Traffic Vol, veh/h       | 198  | 3    | 271  | 191  | 3    | 220  |
| Future Vol, veh/h        | 198  | 3    | 271  | 191  | 3    | 220  |
| Conflicting Peds, #/hr   | 0    | 1    | 1    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | -    | -    | 0    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 78   | 78   | 84   | 84   | 92   | 92   |
| Heavy Vehicles, %        | 5    | 5    | 4    | 4    | 5    | 5    |
| Mvmt Flow                | 254  | 4    | 323  | 227  | 3    | 239  |

| Major/Minor          | Major1 | Major2 | Minor1 |
|----------------------|--------|--------|--------|
| Conflicting Flow All | 0      | 0      | 259    |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |
| Critical Hdwy        | -      | -      | 4.14   |
| Critical Hdwy Stg 1  | -      | -      | -      |
| Critical Hdwy Stg 2  | -      | -      | -      |
| Follow-up Hdwy       | -      | -      | 2.236  |
| Pot Cap-1 Maneuver   | -      | -      | 1294   |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |
| Platoon blocked, %   | -      | -      | -      |
| Mov Cap-1 Maneuver   | -      | -      | 1293   |
| Mov Cap-2 Maneuver   | -      | -      | -      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |

| Approach             | EB | WB  | NB   |
|----------------------|----|-----|------|
| HCM Control Delay, s | 0  | 5.1 | 12.3 |
| HCM LOS              |    |     | B    |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL  | WBT |
|-----------------------|-------|-----|-----|------|-----|
| Capacity (veh/h)      | 735   | -   | -   | 1293 | -   |
| HCM Lane V/C Ratio    | 0.33  | -   | -   | 0.25 | -   |
| HCM Control Delay (s) | 12.3  | -   | -   | 8.7  | 0   |
| HCM Lane LOS          | B     | -   | -   | A    | A   |
| HCM 95th %tile Q(veh) | 1.4   | -   | -   | 1    | -   |



# Lanes, Volumes, Timings

## 11: Cicero Center Road/Van Antwerp Drive & Lakeshore Road

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (vph)       | 2                                                                                 | 197                                                                               | 39                                                                                | 9                                                                                 | 172                                                                               | 0                                                                                 | 23                                                                                | 0                                                                                   | 14                                                                                  | 1                                                                                   | 0                                                                                   | 3                                                                                   |
| Future Volume (vph)        | 2                                                                                 | 197                                                                               | 39                                                                                | 9                                                                                 | 172                                                                               | 0                                                                                 | 23                                                                                | 0                                                                                   | 14                                                                                  | 1                                                                                   | 0                                                                                   | 3                                                                                   |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Satd. Flow (prot)          | 0                                                                                 | 1822                                                                              | 0                                                                                 | 0                                                                                 | 1859                                                                              | 0                                                                                 | 0                                                                                 | 1717                                                                                | 0                                                                                   | 0                                                                                   | 1660                                                                                | 0                                                                                   |
| Flt Permitted              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.998                                                                             |                                                                                   |                                                                                   | 0.970                                                                               |                                                                                     |                                                                                     | 0.986                                                                               |                                                                                     |
| Satd. Flow (perm)          | 0                                                                                 | 1822                                                                              | 0                                                                                 | 0                                                                                 | 1859                                                                              | 0                                                                                 | 0                                                                                 | 1717                                                                                | 0                                                                                   | 0                                                                                   | 1660                                                                                | 0                                                                                   |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 55                                                                                  |                                                                                     |                                                                                     | 30                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 557                                                                               |                                                                                   |                                                                                   | 543                                                                               |                                                                                   |                                                                                   | 388                                                                                 |                                                                                     |                                                                                     | 295                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 10.9                                                                              |                                                                                   |                                                                                   | 10.6                                                                              |                                                                                   |                                                                                   | 4.8                                                                                 |                                                                                     |                                                                                     | 6.7                                                                                 |                                                                                     |
| Confl. Peds. (#/hr)        | 1                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1                                                                                 | 2                                                                                 |                                                                                     | 1                                                                                   | 1                                                                                   |                                                                                     | 2                                                                                   |
| Peak Hour Factor           | 0.83                                                                              | 0.83                                                                              | 0.83                                                                              | 0.79                                                                              | 0.79                                                                              | 0.79                                                                              | 0.55                                                                              | 0.55                                                                                | 0.55                                                                                | 0.63                                                                                | 0.63                                                                                | 0.63                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 0                                                                                 | 286                                                                               | 0                                                                                 | 0                                                                                 | 229                                                                               | 0                                                                                 | 0                                                                                 | 67                                                                                  | 0                                                                                   | 0                                                                                   | 7                                                                                   | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Sign Control               |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Stop                                                                                |                                                                                     |                                                                                     | Stop                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 26.6%

ICU Level of Service A

Analysis Period (min) 15



## Intersection

Int Delay, s/veh 1.7

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|

Lane Configurations

|                          |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Traffic Vol, veh/h       | 2    | 197  | 39   | 9    | 172  | 0    | 23   | 0    | 14   | 1    | 0    | 3    |
| Future Vol, veh/h        | 2    | 197  | 39   | 9    | 172  | 0    | 23   | 0    | 14   | 1    | 0    | 3    |
| Conflicting Peds, #/hr   | 1    | 0    | 0    | 0    | 0    | 1    | 2    | 0    | 1    | 1    | 0    | 2    |
| Sign Control             | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -    | None |
| Storage Length           | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 83   | 83   | 83   | 79   | 79   | 79   | 55   | 55   | 55   | 63   | 63   | 63   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 2    | 237  | 47   | 11   | 218  | 0    | 42   | 0    | 25   | 2    | 0    | 5    |

| Major/Minor | Major1 | Major2 | Minor1 | Minor2 |
|-------------|--------|--------|--------|--------|
|-------------|--------|--------|--------|--------|

|                      |       |   |   |       |   |   |       |       |       |       |       |       |
|----------------------|-------|---|---|-------|---|---|-------|-------|-------|-------|-------|-------|
| Conflicting Flow All | 219   | 0 | 0 | 284   | 0 | 0 | 510   | 506   | 262   | 519   | 529   | 221   |
| Stage 1              | -     | - | - | -     | - | - | 265   | 265   | -     | 241   | 241   | -     |
| Stage 2              | -     | - | - | -     | - | - | 245   | 241   | -     | 278   | 288   | -     |
| Critical Hdwy        | 4.12  | - | - | 4.12  | - | - | 7.12  | 6.52  | 6.22  | 7.12  | 6.52  | 6.22  |
| Critical Hdwy Stg 1  | -     | - | - | -     | - | - | 6.12  | 5.52  | -     | 6.12  | 5.52  | -     |
| Critical Hdwy Stg 2  | -     | - | - | -     | - | - | 6.12  | 5.52  | -     | 6.12  | 5.52  | -     |
| Follow-up Hdwy       | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver   | 1350  | - | - | 1278  | - | - | 474   | 469   | 777   | 467   | 455   | 819   |
| Stage 1              | -     | - | - | -     | - | - | 740   | 689   | -     | 762   | 706   | -     |
| Stage 2              | -     | - | - | -     | - | - | 759   | 706   | -     | 728   | 674   | -     |
| Platoon blocked, %   | -     | - | - | -     | - | - | -     | -     | -     | -     | -     | -     |
| Mov Cap-1 Maneuver   | 1349  | - | - | 1278  | - | - | 466   | 463   | 776   | 447   | 449   | 817   |
| Mov Cap-2 Maneuver   | -     | - | - | -     | - | - | 466   | 463   | -     | 447   | 449   | -     |
| Stage 1              | -     | - | - | -     | - | - | 739   | 688   | -     | 760   | 698   | -     |
| Stage 2              | -     | - | - | -     | - | - | 746   | 698   | -     | 702   | 673   | -     |

| Approach | EB | WB | NB | SB |
|----------|----|----|----|----|
|----------|----|----|----|----|

|                      |     |     |      |      |
|----------------------|-----|-----|------|------|
| HCM Control Delay, s | 0.1 | 0.4 | 12.5 | 10.4 |
| HCM LOS              |     |     | B    | B    |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-----|-----|-----|-----|-------|
|-----------------------|-------|-----|-----|-----|-----|-----|-----|-------|

|                       |       |       |   |   |       |   |   |       |
|-----------------------|-------|-------|---|---|-------|---|---|-------|
| Capacity (veh/h)      | 549   | 1349  | - | - | 1278  | - | - | 677   |
| HCM Lane V/C Ratio    | 0.123 | 0.002 | - | - | 0.009 | - | - | 0.009 |
| HCM Control Delay (s) | 12.5  | 7.7   | 0 | - | 7.8   | 0 | - | 10.4  |
| HCM Lane LOS          | B     | A     | A | - | A     | A | - | B     |
| HCM 95th %tile Q(veh) | 0.4   | 0     | - | - | 0     | - | - | 0     |



# Lanes, Volumes, Timings

## 12: Lakeshore Road & West Site Access

07/05/2022

|                            |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | WBT                                                                               | WBR                                                                               | SBL                                                                               | SBR                                                                               |
| Lane Configurations        |                                                                                   |  |  |                                                                                   |  |                                                                                   |
| Traffic Volume (vph)       | 12                                                                                | 406                                                                               | 450                                                                               | 4                                                                                 | 4                                                                                 | 12                                                                                |
| Future Volume (vph)        | 12                                                                                | 406                                                                               | 450                                                                               | 4                                                                                 | 4                                                                                 | 12                                                                                |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Satd. Flow (prot)          | 0                                                                                 | 1810                                                                              | 1826                                                                              | 0                                                                                 | 1667                                                                              | 0                                                                                 |
| Flt Permitted              |                                                                                   | 0.999                                                                             |                                                                                   |                                                                                   | 0.988                                                                             |                                                                                   |
| Satd. Flow (perm)          | 0                                                                                 | 1810                                                                              | 1826                                                                              | 0                                                                                 | 1667                                                                              | 0                                                                                 |
| Link Speed (mph)           |                                                                                   | 35                                                                                | 35                                                                                |                                                                                   | 30                                                                                |                                                                                   |
| Link Distance (ft)         |                                                                                   | 300                                                                               | 359                                                                               |                                                                                   | 354                                                                               |                                                                                   |
| Travel Time (s)            |                                                                                   | 5.8                                                                               | 7.0                                                                               |                                                                                   | 8.0                                                                               |                                                                                   |
| Peak Hour Factor           | 0.78                                                                              | 0.78                                                                              | 0.84                                                                              | 0.84                                                                              | 0.90                                                                              | 0.90                                                                              |
| Heavy Vehicles (%)         | 1%                                                                                | 5%                                                                                | 4%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)      | 0                                                                                 | 536                                                                               | 541                                                                               | 0                                                                                 | 17                                                                                | 0                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment             | Left                                                                              | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Right                                                                             |
| Median Width(ft)           |                                                                                   | 12                                                                                | 12                                                                                |                                                                                   | 12                                                                                |                                                                                   |
| Link Offset(ft)            |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 |                                                                                   |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                | 16                                                                                |                                                                                   | 16                                                                                |                                                                                   |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (mph)        | 15                                                                                |                                                                                   |                                                                                   | 9                                                                                 | 15                                                                                | 9                                                                                 |
| Sign Control               |                                                                                   | Free                                                                              | Free                                                                              |                                                                                   | Stop                                                                              |                                                                                   |

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 41.0%

ICU Level of Service A

Analysis Period (min) 15



HCM 6th TWSC  
12: Lakeshore Road & West Site Access

07/05/2022

Intersection

| Int Delay, s/veh         | 0.3  |                                                                                   |                                                                                   |      |                                                                                   |      |
|--------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|------|
| Movement                 | EBL  | EBT                                                                               | WBT                                                                               | WBR  | SBL                                                                               | SBR  |
| Lane Configurations      |      |  |  |      |  |      |
| Traffic Vol, veh/h       | 12   | 406                                                                               | 450                                                                               | 4    | 4                                                                                 | 12   |
| Future Vol, veh/h        | 12   | 406                                                                               | 450                                                                               | 4    | 4                                                                                 | 12   |
| Conflicting Peds, #/hr   | 0    | 0                                                                                 | 0                                                                                 | 0    | 0                                                                                 | 0    |
| Sign Control             | Free | Free                                                                              | Free                                                                              | Free | Stop                                                                              | Stop |
| RT Channelized           | -    | None                                                                              | -                                                                                 | None | -                                                                                 | None |
| Storage Length           | -    | -                                                                                 | -                                                                                 | -    | 0                                                                                 | -    |
| Veh in Median Storage, # | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Grade, %                 | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Peak Hour Factor         | 78   | 78                                                                                | 84                                                                                | 84   | 90                                                                                | 90   |
| Heavy Vehicles, %        | 1    | 5                                                                                 | 4                                                                                 | 1    | 1                                                                                 | 1    |
| Mvmt Flow                | 15   | 521                                                                               | 536                                                                               | 5    | 4                                                                                 | 13   |

| Major/Minor          | Major1 | Major2 | Minor2        |
|----------------------|--------|--------|---------------|
| Conflicting Flow All | 541    | 0      | 0 1090 539    |
| Stage 1              | -      | -      | - 539 -       |
| Stage 2              | -      | -      | - 551 -       |
| Critical Hdwy        | 4.11   | -      | - 6.41 6.21   |
| Critical Hdwy Stg 1  | -      | -      | - 5.41 -      |
| Critical Hdwy Stg 2  | -      | -      | - 5.41 -      |
| Follow-up Hdwy       | 2.209  | -      | - 3.509 3.309 |
| Pot Cap-1 Maneuver   | 1033   | -      | - 239 544     |
| Stage 1              | -      | -      | - 587 -       |
| Stage 2              | -      | -      | - 579 -       |
| Platoon blocked, %   | -      | -      | -             |
| Mov Cap-1 Maneuver   | 1033   | -      | - 234 544     |
| Mov Cap-2 Maneuver   | -      | -      | - 234 -       |
| Stage 1              | -      | -      | - 575 -       |
| Stage 2              | -      | -      | - 579 -       |

| Approach             | EB  | WB | SB   |
|----------------------|-----|----|------|
| HCM Control Delay, s | 0.2 | 0  | 14.2 |
| HCM LOS              |     |    | B    |

| Minor Lane/Major Mvmt | EBL   | EBT | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-----|-------|
| Capacity (veh/h)      | 1033  | -   | -   | -   | 409   |
| HCM Lane V/C Ratio    | 0.015 | -   | -   | -   | 0.043 |
| HCM Control Delay (s) | 8.5   | 0   | -   | -   | 14.2  |
| HCM Lane LOS          | A     | A   | -   | -   | B     |
| HCM 95th %tile Q(veh) | 0     | -   | -   | -   | 0.1   |



# Lanes, Volumes, Timings

## 13: Middle Site Access & Lakeshore Road

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |  |  |                                                                                   |  |  |                                                                                   |                                                                                   |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (vph)       | 47                                                                                | 355                                                                               | 8                                                                                 | 1                                                                                 | 384                                                                               | 7                                                                                 | 23                                                                                | 0                                                                                   | 3                                                                                   | 7                                                                                   | 0                                                                                   | 47                                                                                  |
| Future Volume (vph)        | 47                                                                                | 355                                                                               | 8                                                                                 | 1                                                                                 | 384                                                                               | 7                                                                                 | 23                                                                                | 0                                                                                   | 3                                                                                   | 7                                                                                   | 0                                                                                   | 47                                                                                  |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 100                                                                               |                                                                                   | 0                                                                                 | 100                                                                               |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   |
| Storage Lanes              | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 1787                                                                              | 1806                                                                              | 0                                                                                 | 1787                                                                              | 1822                                                                              | 0                                                                                 | 0                                                                                 | 1775                                                                                | 0                                                                                   | 0                                                                                   | 1649                                                                                | 0                                                                                   |
| Flt Permitted              | 0.950                                                                             |                                                                                   |                                                                                   | 0.950                                                                             |                                                                                   |                                                                                   |                                                                                   | 0.957                                                                               |                                                                                     |                                                                                     | 0.993                                                                               |                                                                                     |
| Satd. Flow (perm)          | 1787                                                                              | 1806                                                                              | 0                                                                                 | 1787                                                                              | 1822                                                                              | 0                                                                                 | 0                                                                                 | 1775                                                                                | 0                                                                                   | 0                                                                                   | 1649                                                                                | 0                                                                                   |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 30                                                                                  |                                                                                     |                                                                                     | 30                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 359                                                                               |                                                                                   |                                                                                   | 475                                                                               |                                                                                   |                                                                                   | 333                                                                                 |                                                                                     |                                                                                     | 341                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 7.0                                                                               |                                                                                   |                                                                                   | 9.3                                                                               |                                                                                   |                                                                                   | 7.6                                                                                 |                                                                                     |                                                                                     | 7.8                                                                                 |                                                                                     |
| Peak Hour Factor           | 0.78                                                                              | 0.78                                                                              | 0.78                                                                              | 0.84                                                                              | 0.84                                                                              | 0.84                                                                              | 0.90                                                                              | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                |
| Heavy Vehicles (%)         | 1%                                                                                | 5%                                                                                | 1%                                                                                | 1%                                                                                | 4%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 60                                                                                | 465                                                                               | 0                                                                                 | 1                                                                                 | 465                                                                               | 0                                                                                 | 0                                                                                 | 29                                                                                  | 0                                                                                   | 0                                                                                   | 60                                                                                  | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Sign Control               |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Stop                                                                                |                                                                                     |                                                                                     | Stop                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 40.7%

ICU Level of Service A

Analysis Period (min) 15



HCM 6th TWSC  
13: Middle Site Access & Lakeshore Road

07/05/2022

Intersection

Int Delay, s/veh 2

| Movement                 | EBL                                                                               | EBT                                                                               | EBR  | WBL                                                                               | WBT                                                                               | WBR  | NBL  | NBT                                                                               | NBR  | SBL  | SBT                                                                                 | SBR  |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|------|-----------------------------------------------------------------------------------|------|------|-------------------------------------------------------------------------------------|------|
| Lane Configurations      |  |  |      |  |  |      |      |  |      |      |  |      |
| Traffic Vol, veh/h       | 47                                                                                | 355                                                                               | 8    | 1                                                                                 | 384                                                                               | 7    | 23   | 0                                                                                 | 3    | 7    | 0                                                                                   | 47   |
| Future Vol, veh/h        | 47                                                                                | 355                                                                               | 8    | 1                                                                                 | 384                                                                               | 7    | 23   | 0                                                                                 | 3    | 7    | 0                                                                                   | 47   |
| Conflicting Peds, #/hr   | 0                                                                                 | 0                                                                                 | 0    | 0                                                                                 | 0                                                                                 | 0    | 0    | 0                                                                                 | 0    | 0    | 0                                                                                   | 0    |
| Sign Control             | Free                                                                              | Free                                                                              | Free | Free                                                                              | Free                                                                              | Free | Stop | Stop                                                                              | Stop | Stop | Stop                                                                                | Stop |
| RT Channelized           | -                                                                                 | -                                                                                 | None | -                                                                                 | -                                                                                 | None | -    | -                                                                                 | None | -    | -                                                                                   | None |
| Storage Length           | 100                                                                               | -                                                                                 | -    | 100                                                                               | -                                                                                 | -    | -    | -                                                                                 | -    | -    | -                                                                                   | -    |
| Veh in Median Storage, # | -                                                                                 | 0                                                                                 | -    | -                                                                                 | 0                                                                                 | -    | -    | 0                                                                                 | -    | -    | 0                                                                                   | -    |
| Grade, %                 | -                                                                                 | 0                                                                                 | -    | -                                                                                 | 0                                                                                 | -    | -    | 0                                                                                 | -    | -    | 0                                                                                   | -    |
| Peak Hour Factor         | 78                                                                                | 78                                                                                | 78   | 84                                                                                | 84                                                                                | 84   | 90   | 90                                                                                | 90   | 90   | 90                                                                                  | 90   |
| Heavy Vehicles, %        | 1                                                                                 | 5                                                                                 | 1    | 1                                                                                 | 4                                                                                 | 1    | 1    | 1                                                                                 | 1    | 1    | 1                                                                                   | 1    |
| Mvmt Flow                | 60                                                                                | 455                                                                               | 10   | 1                                                                                 | 457                                                                               | 8    | 26   | 0                                                                                 | 3    | 8    | 0                                                                                   | 52   |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |       |       | Minor2 |       |       |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Conflicting Flow All | 465    | 0 | 0 | 465    | 0 | 0 | 1069   | 1047  | 460   | 1045   | 1048  | 461   |
| Stage 1              | -      | - | - | -      | - | - | 580    | 580   | -     | 463    | 463   | -     |
| Stage 2              | -      | - | - | -      | - | - | 489    | 467   | -     | 582    | 585   | -     |
| Critical Hdwy        | 4.11   | - | - | 4.11   | - | - | 7.11   | 6.51  | 6.21  | 7.11   | 6.51  | 6.21  |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | 6.11   | 5.51  | -     | 6.11   | 5.51  | -     |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | 6.11   | 5.51  | -     | 6.11   | 5.51  | -     |
| Follow-up Hdwy       | 2.209  | - | - | 2.209  | - | - | 3.509  | 4.009 | 3.309 | 3.509  | 4.009 | 3.309 |
| Pot Cap-1 Maneuver   | 1102   | - | - | 1102   | - | - | 200    | 229   | 603   | 208    | 229   | 603   |
| Stage 1              | -      | - | - | -      | - | - | 502    | 502   | -     | 581    | 566   | -     |
| Stage 2              | -      | - | - | -      | - | - | 562    | 563   | -     | 501    | 499   | -     |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | -     | -     | -      | -     | -     |
| Mov Cap-1 Maneuver   | 1102   | - | - | 1102   | - | - | 175    | 216   | 603   | 198    | 216   | 603   |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | 175    | 216   | -     | 198    | 216   | -     |
| Stage 1              | -      | - | - | -      | - | - | 475    | 475   | -     | 550    | 565   | -     |
| Stage 2              | -      | - | - | -      | - | - | 513    | 562   | -     | 471    | 472   | -     |

| Approach             | EB | WB | NB   | SB   |
|----------------------|----|----|------|------|
| HCM Control Delay, s | 1  | 0  | 27.2 | 13.6 |
| HCM LOS              |    |    | D    | B    |

| Minor Lane/Major Mvmt | NBLn1 | EBL   | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 191   | 1102  | -   | -   | 1102  | -   | -   | 477   |
| HCM Lane V/C Ratio    | 0.151 | 0.055 | -   | -   | 0.001 | -   | -   | 0.126 |
| HCM Control Delay (s) | 27.2  | 8.5   | -   | -   | 8.3   | -   | -   | 13.6  |
| HCM Lane LOS          | D     | A     | -   | -   | A     | -   | -   | B     |
| HCM 95th %tile Q(veh) | 0.5   | 0.2   | -   | -   | 0     | -   | -   | 0.4   |



# Lanes, Volumes, Timings

## 14: East Site Access & Lakeshore Road

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |  |  |                                                                                   |  |  |                                                                                   |                                                                                   |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (vph)       | 125                                                                               | 210                                                                               | 30                                                                                | 4                                                                                 | 177                                                                               | 17                                                                                | 90                                                                                | 0                                                                                   | 11                                                                                  | 17                                                                                  | 0                                                                                   | 125                                                                                 |
| Future Volume (vph)        | 125                                                                               | 210                                                                               | 30                                                                                | 4                                                                                 | 177                                                                               | 17                                                                                | 90                                                                                | 0                                                                                   | 11                                                                                  | 17                                                                                  | 0                                                                                   | 125                                                                                 |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 100                                                                               |                                                                                   | 0                                                                                 | 100                                                                               |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   |
| Storage Lanes              | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 1787                                                                              | 1784                                                                              | 0                                                                                 | 1787                                                                              | 1808                                                                              | 0                                                                                 | 0                                                                                 | 1775                                                                                | 0                                                                                   | 0                                                                                   | 1647                                                                                | 0                                                                                   |
| Flt Permitted              | 0.950                                                                             |                                                                                   |                                                                                   | 0.950                                                                             |                                                                                   |                                                                                   |                                                                                   | 0.957                                                                               |                                                                                     |                                                                                     | 0.994                                                                               |                                                                                     |
| Satd. Flow (perm)          | 1787                                                                              | 1784                                                                              | 0                                                                                 | 1787                                                                              | 1808                                                                              | 0                                                                                 | 0                                                                                 | 1775                                                                                | 0                                                                                   | 0                                                                                   | 1647                                                                                | 0                                                                                   |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 30                                                                                  |                                                                                     |                                                                                     | 30                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 475                                                                               |                                                                                   |                                                                                   | 621                                                                               |                                                                                   |                                                                                   | 334                                                                                 |                                                                                     |                                                                                     | 326                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 9.3                                                                               |                                                                                   |                                                                                   | 12.1                                                                              |                                                                                   |                                                                                   | 7.6                                                                                 |                                                                                     |                                                                                     | 7.4                                                                                 |                                                                                     |
| Peak Hour Factor           | 0.78                                                                              | 0.78                                                                              | 0.78                                                                              | 0.84                                                                              | 0.84                                                                              | 0.84                                                                              | 0.90                                                                              | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                |
| Heavy Vehicles (%)         | 1%                                                                                | 5%                                                                                | 1%                                                                                | 1%                                                                                | 4%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 160                                                                               | 307                                                                               | 0                                                                                 | 5                                                                                 | 231                                                                               | 0                                                                                 | 0                                                                                 | 112                                                                                 | 0                                                                                   | 0                                                                                   | 158                                                                                 | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Sign Control               |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Stop                                                                                |                                                                                     |                                                                                     | Stop                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 44.9%

ICU Level of Service A

Analysis Period (min) 15



HCM 6th TWSC  
14: East Site Access & Lakeshore Road

07/05/2022

Intersection

|                          |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |      |      |                                                                                   |      |      |                                                                                     |      |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|------|-----------------------------------------------------------------------------------|------|------|-------------------------------------------------------------------------------------|------|
| Int Delay, s/veh         | 8                                                                                 |                                                                                   |      |                                                                                   |                                                                                   |      |      |                                                                                   |      |      |                                                                                     |      |
| Movement                 | EBL                                                                               | EBT                                                                               | EBR  | WBL                                                                               | WBT                                                                               | WBR  | NBL  | NBT                                                                               | NBR  | SBL  | SBT                                                                                 | SBR  |
| Lane Configurations      |  |  |      |  |  |      |      |  |      |      |  |      |
| Traffic Vol, veh/h       | 125                                                                               | 210                                                                               | 30   | 4                                                                                 | 177                                                                               | 17   | 90   | 0                                                                                 | 11   | 17   | 0                                                                                   | 125  |
| Future Vol, veh/h        | 125                                                                               | 210                                                                               | 30   | 4                                                                                 | 177                                                                               | 17   | 90   | 0                                                                                 | 11   | 17   | 0                                                                                   | 125  |
| Conflicting Peds, #/hr   | 0                                                                                 | 0                                                                                 | 0    | 0                                                                                 | 0                                                                                 | 0    | 0    | 0                                                                                 | 0    | 0    | 0                                                                                   | 0    |
| Sign Control             | Free                                                                              | Free                                                                              | Free | Free                                                                              | Free                                                                              | Free | Stop | Stop                                                                              | Stop | Stop | Stop                                                                                | Stop |
| RT Channelized           | -                                                                                 | -                                                                                 | None | -                                                                                 | -                                                                                 | None | -    | -                                                                                 | None | -    | -                                                                                   | None |
| Storage Length           | 100                                                                               | -                                                                                 | -    | 100                                                                               | -                                                                                 | -    | -    | -                                                                                 | -    | -    | -                                                                                   | -    |
| Veh in Median Storage, # | -                                                                                 | 0                                                                                 | -    | -                                                                                 | 0                                                                                 | -    | -    | 0                                                                                 | -    | -    | 0                                                                                   | -    |
| Grade, %                 | -                                                                                 | 0                                                                                 | -    | -                                                                                 | 0                                                                                 | -    | -    | 0                                                                                 | -    | -    | 0                                                                                   | -    |
| Peak Hour Factor         | 78                                                                                | 78                                                                                | 78   | 84                                                                                | 84                                                                                | 84   | 90   | 90                                                                                | 90   | 90   | 90                                                                                  | 90   |
| Heavy Vehicles, %        | 1                                                                                 | 5                                                                                 | 1    | 1                                                                                 | 4                                                                                 | 1    | 1    | 1                                                                                 | 1    | 1    | 1                                                                                   | 1    |
| Mvmt Flow                | 160                                                                               | 269                                                                               | 38   | 5                                                                                 | 211                                                                               | 20   | 100  | 0                                                                                 | 12   | 19   | 0                                                                                   | 139  |

|                      |        |   |   |        |   |   |        |       |       |        |       |       |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |       |       | Minor2 |       |       |
| Conflicting Flow All | 231    | 0 | 0 | 307    | 0 | 0 | 909    | 849   | 288   | 845    | 858   | 221   |
| Stage 1              | -      | - | - | -      | - | - | 608    | 608   | -     | 231    | 231   | -     |
| Stage 2              | -      | - | - | -      | - | - | 301    | 241   | -     | 614    | 627   | -     |
| Critical Hdwy        | 4.11   | - | - | 4.11   | - | - | 7.11   | 6.51  | 6.21  | 7.11   | 6.51  | 6.21  |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | 6.11   | 5.51  | -     | 6.11   | 5.51  | -     |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | 6.11   | 5.51  | -     | 6.11   | 5.51  | -     |
| Follow-up Hdwy       | 2.209  | - | - | 2.209  | - | - | 3.509  | 4.009 | 3.309 | 3.509  | 4.009 | 3.309 |
| Pot Cap-1 Maneuver   | 1343   | - | - | 1259   | - | - | 257    | 299   | 753   | 284    | 295   | 821   |
| Stage 1              | -      | - | - | -      | - | - | 485    | 487   | -     | 774    | 715   | -     |
| Stage 2              | -      | - | - | -      | - | - | 710    | 708   | -     | 481    | 478   | -     |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | -     | -     | -      | -     | -     |
| Mov Cap-1 Maneuver   | 1343   | - | - | 1259   | - | - | 194    | 262   | 753   | 253    | 259   | 821   |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | 194    | 262   | -     | 253    | 259   | -     |
| Stage 1              | -      | - | - | -      | - | - | 427    | 429   | -     | 682    | 712   | -     |
| Stage 2              | -      | - | - | -      | - | - | 588    | 705   | -     | 417    | 421   | -     |

|                      |     |     |      |      |
|----------------------|-----|-----|------|------|
| Approach             | EB  | WB  | NB   | SB   |
| HCM Control Delay, s | 2.8 | 0.2 | 39.9 | 12.3 |
| HCM LOS              |     |     | E    | B    |

|                       |       |       |     |     |       |     |     |       |
|-----------------------|-------|-------|-----|-----|-------|-----|-----|-------|
| Minor Lane/Major Mvmt | NBLn1 | EBL   | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
| Capacity (veh/h)      | 211   | 1343  | -   | -   | 1259  | -   | -   | 647   |
| HCM Lane V/C Ratio    | 0.532 | 0.119 | -   | -   | 0.004 | -   | -   | 0.244 |
| HCM Control Delay (s) | 39.9  | 8     | -   | -   | 7.9   | -   | -   | 12.3  |
| HCM Lane LOS          | E     | A     | -   | -   | A     | -   | -   | B     |
| HCM 95th %tile Q(veh) | 2.8   | 0.4   | -   | -   | 0     | -   | -   | 1     |



# Lanes, Volumes, Timings

## 1: Route 11 & Route 31

07/05/2022

|                            |  |  |  |  |  |  |   |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |  |  |                                                                                   |  |  |                                                                                   |  |  |  |  |  |  |
| Traffic Volume (vph)       | 66                                                                                | 559                                                                               | 111                                                                               | 486                                                                               | 647                                                                               | 137                                                                               | 137                                                                                | 328                                                                                 | 602                                                                                 | 215                                                                                 | 198                                                                                 | 95                                                                                  |
| Future Volume (vph)        | 66                                                                                | 559                                                                               | 111                                                                               | 486                                                                               | 647                                                                               | 137                                                                               | 137                                                                                | 328                                                                                 | 602                                                                                 | 215                                                                                 | 198                                                                                 | 95                                                                                  |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                               | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 200                                                                               |                                                                                   | 310                                                                               | 495                                                                               |                                                                                   | 0                                                                                 | 175                                                                                |                                                                                     | 0                                                                                   | 350                                                                                 |                                                                                     | 0                                                                                   |
| Storage Lanes              | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                  |                                                                                     | 1                                                                                   | 1                                                                                   |                                                                                     | 0                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                 |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 1787                                                                              | 3485                                                                              | 0                                                                                 | 1787                                                                              | 3481                                                                              | 0                                                                                 | 1787                                                                               | 1881                                                                                | 1599                                                                                | 1770                                                                                | 3366                                                                                | 0                                                                                   |
| Flt Permitted              | 0.310                                                                             |                                                                                   |                                                                                   | 0.145                                                                             |                                                                                   |                                                                                   | 0.542                                                                              |                                                                                     |                                                                                     | 0.161                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)          | 583                                                                               | 3485                                                                              | 0                                                                                 | 273                                                                               | 3481                                                                              | 0                                                                                 | 1020                                                                               | 1881                                                                                | 1579                                                                                | 300                                                                                 | 3366                                                                                | 0                                                                                   |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                    |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   | 19                                                                                |                                                                                   |                                                                                   | 28                                                                                |                                                                                   |                                                                                    |                                                                                     | 89                                                                                  |                                                                                     | 68                                                                                  |                                                                                     |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                    | 35                                                                                  |                                                                                     |                                                                                     | 35                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 385                                                                               |                                                                                   |                                                                                   | 703                                                                               |                                                                                   |                                                                                    | 612                                                                                 |                                                                                     |                                                                                     | 561                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 7.5                                                                               |                                                                                   |                                                                                   | 13.7                                                                              |                                                                                   |                                                                                    | 11.9                                                                                |                                                                                     |                                                                                     | 10.9                                                                                |                                                                                     |
| Confl. Peds. (#/hr)        |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     | 1                                                                                   | 1                                                                                   |                                                                                     |                                                                                     |
| Peak Hour Factor           | 0.95                                                                              | 0.95                                                                              | 0.95                                                                              | 0.85                                                                              | 0.85                                                                              | 0.85                                                                              | 0.95                                                                               | 0.95                                                                                | 0.95                                                                                | 0.86                                                                                | 0.86                                                                                | 0.86                                                                                |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                 | 1%                                                                                  | 1%                                                                                  | 2%                                                                                  | 2%                                                                                  | 2%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 69                                                                                | 705                                                                               | 0                                                                                 | 572                                                                               | 922                                                                               | 0                                                                                 | 144                                                                                | 345                                                                                 | 634                                                                                 | 250                                                                                 | 340                                                                                 | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                 | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                               | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                    | 12                                                                                  |                                                                                     |                                                                                     | 12                                                                                  |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                    | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                    | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                 |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                              | NA                                                                                  | pm+ov                                                                               | pm+pt                                                                               | NA                                                                                  |                                                                                     |
| Protected Phases           | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 3                                                                                  | 8                                                                                   | 1                                                                                   | 7                                                                                   | 4                                                                                   |                                                                                     |
| Permitted Phases           | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                  |                                                                                     | 8                                                                                   | 4                                                                                   |                                                                                     |                                                                                     |
| Detector Phase             | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 3                                                                                  | 8                                                                                   | 1                                                                                   | 7                                                                                   | 4                                                                                   |                                                                                     |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 4.0                                                                               | 12.0                                                                              |                                                                                   | 8.0                                                                               | 12.0                                                                              |                                                                                   | 4.0                                                                                | 8.0                                                                                 | 8.0                                                                                 | 4.0                                                                                 | 8.0                                                                                 |                                                                                     |
| Minimum Split (s)          | 9.5                                                                               | 18.0                                                                              |                                                                                   | 13.5                                                                              | 18.0                                                                              |                                                                                   | 10.0                                                                               | 14.0                                                                                | 13.5                                                                                | 9.5                                                                                 | 14.0                                                                                |                                                                                     |
| Total Split (s)            | 13.0                                                                              | 28.0                                                                              |                                                                                   | 36.0                                                                              | 51.0                                                                              |                                                                                   | 15.0                                                                               | 28.0                                                                                | 36.0                                                                                | 18.0                                                                                | 31.0                                                                                |                                                                                     |
| Total Split (%)            | 11.8%                                                                             | 25.5%                                                                             |                                                                                   | 32.7%                                                                             | 46.4%                                                                             |                                                                                   | 13.6%                                                                              | 25.5%                                                                               | 32.7%                                                                               | 16.4%                                                                               | 28.2%                                                                               |                                                                                     |
| Maximum Green (s)          | 7.5                                                                               | 22.0                                                                              |                                                                                   | 30.5                                                                              | 45.0                                                                              |                                                                                   | 9.0                                                                                | 22.0                                                                                | 30.5                                                                                | 12.5                                                                                | 25.0                                                                                |                                                                                     |
| Yellow Time (s)            | 3.5                                                                               | 3.5                                                                               |                                                                                   | 3.5                                                                               | 3.5                                                                               |                                                                                   | 3.5                                                                                | 3.5                                                                                 | 3.5                                                                                 | 3.0                                                                                 | 3.5                                                                                 |                                                                                     |
| All-Red Time (s)           | 2.0                                                                               | 2.5                                                                               |                                                                                   | 2.0                                                                               | 2.5                                                                               |                                                                                   | 2.5                                                                                | 2.5                                                                                 | 2.0                                                                                 | 2.5                                                                                 | 2.5                                                                                 |                                                                                     |
| Lost Time Adjust (s)       | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                                | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)        | 5.5                                                                               | 6.0                                                                               |                                                                                   | 5.5                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                                | 6.0                                                                                 | 5.5                                                                                 | 5.5                                                                                 | 6.0                                                                                 |                                                                                     |
| Lead/Lag                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                               | Lag                                                                                 | Lead                                                                                | Lead                                                                                | Lag                                                                                 |                                                                                     |
| Lead-Lag Optimize?         | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                                | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 |                                                                                     |
| Vehicle Extension (s)      | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                                | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |
| Recall Mode                | None                                                                              | C-Min                                                                             |                                                                                   | None                                                                              | C-Min                                                                             |                                                                                   | None                                                                               | None                                                                                | None                                                                                | None                                                                                | None                                                                                |                                                                                     |
| Act Effect Green (s)       | 29.6                                                                              | 22.0                                                                              |                                                                                   | 58.8                                                                              | 48.0                                                                              |                                                                                   | 30.5                                                                               | 21.7                                                                                | 53.0                                                                                | 37.9                                                                                | 24.9                                                                                |                                                                                     |
| Actuated g/C Ratio         | 0.27                                                                              | 0.20                                                                              |                                                                                   | 0.53                                                                              | 0.44                                                                              |                                                                                   | 0.28                                                                               | 0.20                                                                                | 0.48                                                                                | 0.34                                                                                | 0.23                                                                                |                                                                                     |
| v/c Ratio                  | 0.29                                                                              | 0.99                                                                              |                                                                                   | 1.00                                                                              | 0.60                                                                              |                                                                                   | 0.42                                                                               | 0.93                                                                                | 0.78                                                                                | 0.93                                                                                | 0.42                                                                                |                                                                                     |



# Lanes, Volumes, Timings

## 1: Route 11 & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Control Delay           | 20.3                                                                              | 74.7                                                                              |                                                                                   | 68.6                                                                              | 21.4                                                                              |                                                                                   | 29.2                                                                              | 76.6                                                                                | 25.8                                                                                | 68.0                                                                                | 30.6                                                                                |                                                                                     |
| Queue Delay             | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Delay             | 20.3                                                                              | 74.7                                                                              |                                                                                   | 68.6                                                                              | 21.4                                                                              |                                                                                   | 29.2                                                                              | 76.6                                                                                | 25.8                                                                                | 68.0                                                                                | 30.6                                                                                |                                                                                     |
| LOS                     | C                                                                                 | E                                                                                 |                                                                                   | E                                                                                 | C                                                                                 |                                                                                   | C                                                                                 | E                                                                                   | C                                                                                   | E                                                                                   | C                                                                                   |                                                                                     |
| Approach Delay          |                                                                                   | 69.9                                                                              |                                                                                   |                                                                                   | 39.5                                                                              |                                                                                   |                                                                                   | 41.9                                                                                |                                                                                     |                                                                                     | 46.4                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | E                                                                                 |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | D                                                                                   |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 23                                                                                | 257                                                                               |                                                                                   | ~399                                                                              | 258                                                                               |                                                                                   | 70                                                                                | 241                                                                                 | 280                                                                                 | 128                                                                                 | 85                                                                                  |                                                                                     |
| Queue Length 95th (ft)  | 45                                                                                | #386                                                                              |                                                                                   | #536                                                                              | 295                                                                               |                                                                                   | 118                                                                               | #412                                                                                | 424                                                                                 | #255                                                                                | 122                                                                                 |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 305                                                                               |                                                                                   |                                                                                   | 623                                                                               |                                                                                   |                                                                                   | 532                                                                                 |                                                                                     |                                                                                     | 481                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 200                                                                               |                                                                                   |                                                                                   | 495                                                                               |                                                                                   |                                                                                   | 175                                                                               |                                                                                     |                                                                                     | 350                                                                                 |                                                                                     |                                                                                     |
| Base Capacity (vph)     | 241                                                                               | 712                                                                               |                                                                                   | 570                                                                               | 1536                                                                              |                                                                                   | 347                                                                               | 376                                                                                 | 812                                                                                 | 270                                                                                 | 817                                                                                 |                                                                                     |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       | 0.29                                                                              | 0.99                                                                              |                                                                                   | 1.00                                                                              | 0.60                                                                              |                                                                                   | 0.41                                                                              | 0.92                                                                                | 0.78                                                                                | 0.93                                                                                | 0.42                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 102 (93%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.00

Intersection Signal Delay: 47.1

Intersection LOS: D

Intersection Capacity Utilization 94.3%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

### Splits and Phases: 1: Route 11 & Route 31

|                                                                                        |                                                                                            |                                                                                        |                                                                                          |
|----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
|  Ø1 |  Ø2 (R) |  Ø3 |  Ø4 |
| 36 s                                                                                   | 28 s                                                                                       | 15 s                                                                                   | 31 s                                                                                     |
|  Ø5 |  Ø6 (R) |  Ø7 |  Ø8 |
| 13 s                                                                                   | 51 s                                                                                       | 18 s                                                                                   | 28 s                                                                                     |



# Lanes, Volumes, Timings

## 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |                                                                                   |  |                                                                                   |  |  |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |  |  |
| Traffic Volume (vph)       | 0                                                                                 | 1100                                                                              | 276                                                                               | 479                                                                               | 1133                                                                              | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 158                                                                                 | 6                                                                                   | 137                                                                                 |
| Future Volume (vph)        | 0                                                                                 | 1100                                                                              | 276                                                                               | 479                                                                               | 1133                                                                              | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 158                                                                                 | 6                                                                                   | 137                                                                                 |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 0                                                                                 |                                                                                   | 0                                                                                 | 150                                                                               |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     | 125                                                                                 |
| Storage Lanes              | 0                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     | 1                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 0                                                                                 | 3418                                                                              | 0                                                                                 | 1787                                                                              | 3574                                                                              | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 1760                                                                                | 1568                                                                                |
| Flt Permitted              |                                                                                   |                                                                                   |                                                                                   | 0.070                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 0.954                                                                               |                                                                                     |
| Satd. Flow (perm)          | 0                                                                                 | 3418                                                                              | 0                                                                                 | 132                                                                               | 3574                                                                              | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 1760                                                                                | 1568                                                                                |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   | 34                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 149                                                                                 |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 40                                                                                  |                                                                                     |                                                                                     | 40                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 703                                                                               |                                                                                   |                                                                                   | 360                                                                               |                                                                                   |                                                                                   | 622                                                                                 |                                                                                     |                                                                                     | 505                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 13.7                                                                              |                                                                                   |                                                                                   | 7.0                                                                               |                                                                                   |                                                                                   | 10.6                                                                                |                                                                                     |                                                                                     | 8.6                                                                                 |                                                                                     |
| Confl. Peds. (#/hr)        | 1                                                                                 |                                                                                   | 1                                                                                 | 1                                                                                 |                                                                                   | 1                                                                                 |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Peak Hour Factor           | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.96                                                                              | 0.96                                                                              | 0.96                                                                              | 0.90                                                                              | 0.90                                                                                | 0.90                                                                                | 0.84                                                                                | 0.84                                                                                | 0.84                                                                                |
| Heavy Vehicles (%)         | 2%                                                                                | 2%                                                                                | 2%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                  | 1%                                                                                  | 3%                                                                                  | 3%                                                                                  | 3%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 0                                                                                 | 1480                                                                              | 0                                                                                 | 499                                                                               | 1180                                                                              | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 195                                                                                 | 163                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  |                                                                                   | NA                                                                                |                                                                                   | pm+pt                                                                             | NA                                                                                |                                                                                   |                                                                                   |                                                                                     |                                                                                     | Perm                                                                                | NA                                                                                  | Perm                                                                                |
| Protected Phases           |                                                                                   | 2                                                                                 |                                                                                   | 1 3                                                                               | 6                                                                                 |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |
| Permitted Phases           |                                                                                   |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     | 4                                                                                   |
| Detector Phase             |                                                                                   | 2                                                                                 |                                                                                   | 1 3                                                                               | 6                                                                                 |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 4                                                                                   | 4                                                                                   | 4                                                                                   |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        |                                                                                   | 12.0                                                                              |                                                                                   |                                                                                   | 12.0                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 |
| Minimum Split (s)          |                                                                                   | 17.0                                                                              |                                                                                   |                                                                                   | 17.0                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 9.0                                                                                 | 9.0                                                                                 | 9.0                                                                                 |
| Total Split (s)            |                                                                                   | 50.0                                                                              |                                                                                   |                                                                                   | 91.0                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 19.0                                                                                | 19.0                                                                                | 19.0                                                                                |
| Total Split (%)            |                                                                                   | 45.5%                                                                             |                                                                                   |                                                                                   | 82.7%                                                                             |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 17.3%                                                                               | 17.3%                                                                               | 17.3%                                                                               |
| Maximum Green (s)          |                                                                                   | 45.0                                                                              |                                                                                   |                                                                                   | 86.0                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 14.0                                                                                | 14.0                                                                                | 14.0                                                                                |
| Yellow Time (s)            |                                                                                   | 3.5                                                                               |                                                                                   |                                                                                   | 3.5                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 |
| All-Red Time (s)           |                                                                                   | 1.5                                                                               |                                                                                   |                                                                                   | 1.5                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 1.0                                                                                 | 1.0                                                                                 | 1.0                                                                                 |
| Lost Time Adjust (s)       |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |
| Total Lost Time (s)        |                                                                                   | 5.0                                                                               |                                                                                   |                                                                                   | 5.0                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |
| Lead/Lag                   |                                                                                   | Lag                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?         |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Vehicle Extension (s)      |                                                                                   | 3.0                                                                               |                                                                                   |                                                                                   | 3.0                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |
| Recall Mode                |                                                                                   | C-Min                                                                             |                                                                                   |                                                                                   | C-Min                                                                             |                                                                                   |                                                                                   |                                                                                     |                                                                                     | None                                                                                | None                                                                                | None                                                                                |
| Act Effect Green (s)       |                                                                                   | 47.3                                                                              |                                                                                   | 86.2                                                                              | 86.2                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 13.8                                                                                | 13.8                                                                                |
| Actuated g/C Ratio         |                                                                                   | 0.43                                                                              |                                                                                   | 0.78                                                                              | 0.78                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 0.13                                                                                | 0.13                                                                                |
| v/c Ratio                  |                                                                                   | 0.99                                                                              |                                                                                   | 0.93                                                                              | 0.42                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 0.88                                                                                | 0.50                                                                                |



# Lanes, Volumes, Timings

## 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

07/05/2022

| Lane Group                 | Ø1   | Ø3   |
|----------------------------|------|------|
| Lane Configurations        |      |      |
| Traffic Volume (vph)       |      |      |
| Future Volume (vph)        |      |      |
| Ideal Flow (vphpl)         |      |      |
| Storage Length (ft)        |      |      |
| Storage Lanes              |      |      |
| Taper Length (ft)          |      |      |
| Satd. Flow (prot)          |      |      |
| Flt Permitted              |      |      |
| Satd. Flow (perm)          |      |      |
| Right Turn on Red          |      |      |
| Satd. Flow (RTOR)          |      |      |
| Link Speed (mph)           |      |      |
| Link Distance (ft)         |      |      |
| Travel Time (s)            |      |      |
| Confl. Peds. (#/hr)        |      |      |
| Peak Hour Factor           |      |      |
| Heavy Vehicles (%)         |      |      |
| Shared Lane Traffic (%)    |      |      |
| Lane Group Flow (vph)      |      |      |
| Enter Blocked Intersection |      |      |
| Lane Alignment             |      |      |
| Median Width(ft)           |      |      |
| Link Offset(ft)            |      |      |
| Crosswalk Width(ft)        |      |      |
| Two way Left Turn Lane     |      |      |
| Headway Factor             |      |      |
| Turning Speed (mph)        |      |      |
| Turn Type                  |      |      |
| Protected Phases           | 1    | 3    |
| Permitted Phases           |      |      |
| Detector Phase             |      |      |
| Switch Phase               |      |      |
| Minimum Initial (s)        | 4.0  | 4.0  |
| Minimum Split (s)          | 9.0  | 9.0  |
| Total Split (s)            | 29.0 | 12.0 |
| Total Split (%)            | 26%  | 11%  |
| Maximum Green (s)          | 24.0 | 7.0  |
| Yellow Time (s)            | 3.5  | 3.5  |
| All-Red Time (s)           | 1.5  | 1.5  |
| Lost Time Adjust (s)       |      |      |
| Total Lost Time (s)        |      |      |
| Lead/Lag                   | Lead |      |
| Lead-Lag Optimize?         | Yes  |      |
| Vehicle Extension (s)      | 3.0  | 3.0  |
| Recall Mode                | None | None |
| Act Effect Green (s)       |      |      |
| Actuated g/C Ratio         |      |      |
| v/c Ratio                  |      |      |



# Lanes, Volumes, Timings

## 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Control Delay           |                                                                                   | 43.0                                                                              |                                                                                   | 40.5                                                                              | 2.9                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 84.5                                                                                | 14.9                                                                                |
| Queue Delay             |                                                                                   | 0.0                                                                               |                                                                                   | 31.1                                                                              | 0.8                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |
| Total Delay             |                                                                                   | 43.0                                                                              |                                                                                   | 71.6                                                                              | 3.7                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 84.5                                                                                | 14.9                                                                                |
| LOS                     |                                                                                   | D                                                                                 |                                                                                   | E                                                                                 | A                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | F                                                                                   | B                                                                                   |
| Approach Delay          |                                                                                   | 43.0                                                                              |                                                                                   |                                                                                   | 23.9                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 52.8                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Queue Length 50th (ft)  |                                                                                   | ~585                                                                              |                                                                                   | 236                                                                               | 96                                                                                |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 137                                                                                 | 9                                                                                   |
| Queue Length 95th (ft)  |                                                                                   | m#672                                                                             |                                                                                   | m260                                                                              | m79                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | #239                                                                                | 59                                                                                  |
| Internal Link Dist (ft) |                                                                                   | 623                                                                               |                                                                                   |                                                                                   | 280                                                                               |                                                                                   |                                                                                    | 542                                                                                 |                                                                                     |                                                                                     | 425                                                                                 |                                                                                     |
| Turn Bay Length (ft)    |                                                                                   |                                                                                   |                                                                                   | 150                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 125                                                                                 |
| Base Capacity (vph)     |                                                                                   | 1490                                                                              |                                                                                   | 569                                                                               | 2800                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 224                                                                                 | 329                                                                                 |
| Starvation Cap Reductn  |                                                                                   | 0                                                                                 |                                                                                   | 94                                                                                | 1214                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 0                                                                                   | 0                                                                                   |
| Spillback Cap Reductn   |                                                                                   | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 0                                                                                   | 0                                                                                   |
| Storage Cap Reductn     |                                                                                   | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 0                                                                                   | 0                                                                                   |
| Reduced v/c Ratio       |                                                                                   | 0.99                                                                              |                                                                                   | 1.05                                                                              | 0.74                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 0.87                                                                                | 0.50                                                                                |

### Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 39 (35%), Referenced to phase 2:EBT and 6:WBTL, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 34.9

Intersection LOS: C

Intersection Capacity Utilization 87.3%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

|                                                                                            |                                                                                            |                                                                                          |                                                                                          |
|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
|  Ø1     |  Ø2 (R) |  Ø3 |  Ø4 |
| 29 s                                                                                       | 50 s                                                                                       | 12 s                                                                                     | 19 s                                                                                     |
|  Ø6 (R) |                                                                                            |                                                                                          |                                                                                          |
| 91 s                                                                                       |                                                                                            |                                                                                          |                                                                                          |



## Lanes, Volumes, Timings

### 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

07/05/2022

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| Lane Group | Ø1 | Ø3 |
|------------|----|----|
|------------|----|----|

---

Control Delay

Queue Delay

Total Delay

LOS

Approach Delay

Approach LOS

Queue Length 50th (ft)

Queue Length 95th (ft)

Internal Link Dist (ft)

Turn Bay Length (ft)

Base Capacity (vph)

Starvation Cap Reductn

Spillback Cap Reductn

Storage Cap Reductn

Reduced v/c Ratio

Intersection Summary

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# Lanes, Volumes, Timings

## 3: I-81 NB Offramp/Pardee Road & Route 31

07/05/2022

|                            |  |  |  |  |  |  |    |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |  |  |                                                                                   |                                                                                   |  |                                                                                   |  |  |  |                                                                                     |                                                                                     |  |
| Traffic Volume (vph)       | 281                                                                               | 977                                                                               | 0                                                                                 | 0                                                                                 | 1120                                                                              | 286                                                                               | 359                                                                                 | 124                                                                                 | 757                                                                                 | 0                                                                                   | 0                                                                                   | 133                                                                                 |
| Future Volume (vph)        | 281                                                                               | 977                                                                               | 0                                                                                 | 0                                                                                 | 1120                                                                              | 286                                                                               | 359                                                                                 | 124                                                                                 | 757                                                                                 | 0                                                                                   | 0                                                                                   | 133                                                                                 |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 85                                                                                |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 310                                                                                 |                                                                                     | 100                                                                                 | 0                                                                                   |                                                                                     | 0                                                                                   |
| Storage Lanes              | 1                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                   |                                                                                     | 1                                                                                   | 0                                                                                   |                                                                                     | 1                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                  |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 1770                                                                              | 3539                                                                              | 0                                                                                 | 0                                                                                 | 3415                                                                              | 0                                                                                 | 1752                                                                                | 1561                                                                                | 1490                                                                                | 0                                                                                   | 0                                                                                   | 1596                                                                                |
| Flt Permitted              | 0.076                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.950                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Satd. Flow (perm)          | 142                                                                               | 3539                                                                              | 0                                                                                 | 0                                                                                 | 3415                                                                              | 0                                                                                 | 1752                                                                                | 1561                                                                                | 1490                                                                                | 0                                                                                   | 0                                                                                   | 1596                                                                                |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                     |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 36                                                                                |                                                                                   |                                                                                     | 80                                                                                  | 80                                                                                  |                                                                                     |                                                                                     | 84                                                                                  |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                     | 40                                                                                  |                                                                                     |                                                                                     | 55                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 360                                                                               |                                                                                   |                                                                                   | 1082                                                                              |                                                                                   |                                                                                     | 639                                                                                 |                                                                                     |                                                                                     | 500                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 7.0                                                                               |                                                                                   |                                                                                   | 21.1                                                                              |                                                                                   |                                                                                     | 10.9                                                                                |                                                                                     |                                                                                     | 6.2                                                                                 |                                                                                     |
| Confl. Peds. (#/hr)        | 1                                                                                 |                                                                                   | 2                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Peak Hour Factor           | 0.84                                                                              | 0.84                                                                              | 0.84                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.84                                                                                | 0.84                                                                                | 0.84                                                                                | 0.75                                                                                | 0.75                                                                                | 0.75                                                                                |
| Heavy Vehicles (%)         | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 3%                                                                                  | 3%                                                                                  | 3%                                                                                  | 3%                                                                                  | 3%                                                                                  | 3%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 43%                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 335                                                                               | 1163                                                                              | 0                                                                                 | 0                                                                                 | 1528                                                                              | 0                                                                                 | 427                                                                                 | 535                                                                                 | 514                                                                                 | 0                                                                                   | 0                                                                                   | 177                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                                | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                     | 12                                                                                  |                                                                                     |                                                                                     | 12                                                                                  |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                     | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                     | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                  |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | pm+pt                                                                             | NA                                                                                |                                                                                   |                                                                                   | NA                                                                                |                                                                                   | Perm                                                                                | NA                                                                                  | Prot                                                                                |                                                                                     |                                                                                     | Over                                                                                |
| Protected Phases           | 5                                                                                 | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                     | 8                                                                                   | 8                                                                                   |                                                                                     |                                                                                     | 5                                                                                   |
| Permitted Phases           | 2                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Detector Phase             | 5                                                                                 | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   | 8                                                                                   | 8                                                                                   | 8                                                                                   |                                                                                     |                                                                                     | 5                                                                                   |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 4.0                                                                               | 12.0                                                                              |                                                                                   |                                                                                   | 12.0                                                                              |                                                                                   | 6.0                                                                                 | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |                                                                                     | 4.0                                                                                 |
| Minimum Split (s)          | 9.0                                                                               | 17.5                                                                              |                                                                                   |                                                                                   | 17.5                                                                              |                                                                                   | 12.0                                                                                | 12.0                                                                                | 12.0                                                                                |                                                                                     |                                                                                     | 9.0                                                                                 |
| Total Split (s)            | 18.0                                                                              | 71.0                                                                              |                                                                                   |                                                                                   | 53.0                                                                              |                                                                                   | 39.0                                                                                | 39.0                                                                                | 39.0                                                                                |                                                                                     |                                                                                     | 18.0                                                                                |
| Total Split (%)            | 16.4%                                                                             | 64.5%                                                                             |                                                                                   |                                                                                   | 48.2%                                                                             |                                                                                   | 35.5%                                                                               | 35.5%                                                                               | 35.5%                                                                               |                                                                                     |                                                                                     | 16.4%                                                                               |
| Maximum Green (s)          | 13.0                                                                              | 65.5                                                                              |                                                                                   |                                                                                   | 47.5                                                                              |                                                                                   | 33.0                                                                                | 33.0                                                                                | 33.0                                                                                |                                                                                     |                                                                                     | 13.0                                                                                |
| Yellow Time (s)            | 3.0                                                                               | 3.5                                                                               |                                                                                   |                                                                                   | 3.5                                                                               |                                                                                   | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 |                                                                                     |                                                                                     | 3.0                                                                                 |
| All-Red Time (s)           | 2.0                                                                               | 2.0                                                                               |                                                                                   |                                                                                   | 2.0                                                                               |                                                                                   | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 |                                                                                     |                                                                                     | 2.0                                                                                 |
| Lost Time Adjust (s)       | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |                                                                                     | 0.0                                                                                 |
| Total Lost Time (s)        | 5.0                                                                               | 5.5                                                                               |                                                                                   |                                                                                   | 5.5                                                                               |                                                                                   | 6.0                                                                                 | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |                                                                                     | 5.0                                                                                 |
| Lead/Lag                   | Lead                                                                              |                                                                                   |                                                                                   |                                                                                   | Lag                                                                               |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | Lead                                                                                |
| Lead-Lag Optimize?         | Yes                                                                               |                                                                                   |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | Yes                                                                                 |
| Vehicle Extension (s)      | 3.0                                                                               | 3.0                                                                               |                                                                                   |                                                                                   | 3.0                                                                               |                                                                                   | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |                                                                                     | 3.0                                                                                 |
| Recall Mode                | None                                                                              | C-Min                                                                             |                                                                                   |                                                                                   | C-Min                                                                             |                                                                                   | None                                                                                | None                                                                                | None                                                                                |                                                                                     |                                                                                     | None                                                                                |
| Act Effct Green (s)        | 66.0                                                                              | 65.5                                                                              |                                                                                   |                                                                                   | 47.5                                                                              |                                                                                   | 33.0                                                                                | 33.0                                                                                | 33.0                                                                                |                                                                                     |                                                                                     | 13.0                                                                                |
| Actuated g/C Ratio         | 0.60                                                                              | 0.60                                                                              |                                                                                   |                                                                                   | 0.43                                                                              |                                                                                   | 0.30                                                                                | 0.30                                                                                | 0.30                                                                                |                                                                                     |                                                                                     | 0.12                                                                                |
| v/c Ratio                  | 1.21                                                                              | 0.55                                                                              |                                                                                   |                                                                                   | 1.02                                                                              |                                                                                   | 0.81                                                                                | 1.02                                                                                | 1.02                                                                                |                                                                                     |                                                                                     | 0.68                                                                                |



# Lanes, Volumes, Timings

## 3: I-81 NB Offramp/Pardee Road & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Control Delay           | 150.4                                                                             | 4.8                                                                               |                                                                                   |                                                                                   | 47.9                                                                              |                                                                                   | 49.5                                                                              | 78.1                                                                                | 78.9                                                                                |                                                                                     |                                                                                     | 38.2                                                                                |
| Queue Delay             | 0.0                                                                               | 0.6                                                                               |                                                                                   |                                                                                   | 9.9                                                                               |                                                                                   | 11.6                                                                              | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |                                                                                     | 0.4                                                                                 |
| Total Delay             | 150.4                                                                             | 5.4                                                                               |                                                                                   |                                                                                   | 57.8                                                                              |                                                                                   | 61.2                                                                              | 78.1                                                                                | 78.9                                                                                |                                                                                     |                                                                                     | 38.6                                                                                |
| LOS                     | F                                                                                 | A                                                                                 |                                                                                   |                                                                                   | E                                                                                 |                                                                                   | E                                                                                 | E                                                                                   | E                                                                                   |                                                                                     |                                                                                     | D                                                                                   |
| Approach Delay          |                                                                                   | 37.8                                                                              |                                                                                   |                                                                                   | 57.8                                                                              |                                                                                   |                                                                                   | 73.5                                                                                |                                                                                     |                                                                                     | 38.6                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | E                                                                                 |                                                                                   |                                                                                   | E                                                                                   |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | ~246                                                                              | 78                                                                                |                                                                                   |                                                                                   | ~614                                                                              |                                                                                   | 279                                                                               | ~377                                                                                | ~362                                                                                |                                                                                     |                                                                                     | 62                                                                                  |
| Queue Length 95th (ft)  | m#270                                                                             | m80                                                                               |                                                                                   |                                                                                   | m#667                                                                             |                                                                                   | 367                                                                               | #532                                                                                | #515                                                                                |                                                                                     |                                                                                     | 101                                                                                 |
| Internal Link Dist (ft) |                                                                                   | 280                                                                               |                                                                                   |                                                                                   | 1002                                                                              |                                                                                   |                                                                                   | 559                                                                                 |                                                                                     |                                                                                     | 420                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 85                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 310                                                                               |                                                                                     | 100                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| Base Capacity (vph)     | 277                                                                               | 2107                                                                              |                                                                                   |                                                                                   | 1495                                                                              |                                                                                   | 525                                                                               | 524                                                                                 | 503                                                                                 |                                                                                     |                                                                                     | 262                                                                                 |
| Starvation Cap Reductn  | 0                                                                                 | 527                                                                               |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 40                                                                                |                                                                                   | 81                                                                                | 0                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |
| Reduced v/c Ratio       | 1.21                                                                              | 0.74                                                                              |                                                                                   |                                                                                   | 1.05                                                                              |                                                                                   | 0.96                                                                              | 1.02                                                                                | 1.02                                                                                |                                                                                     |                                                                                     | 0.69                                                                                |

### Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 47 (43%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.21

Intersection Signal Delay: 55.6

Intersection LOS: E

Intersection Capacity Utilization 91.5%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

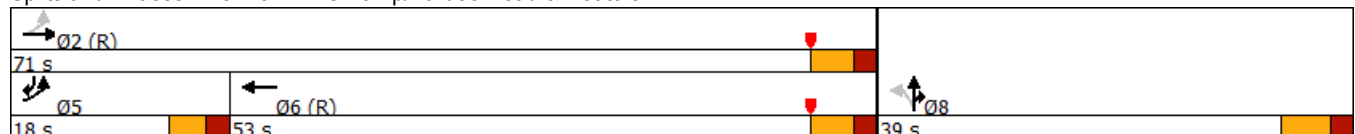
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: I-81 NB Offramp/Pardee Road & Route 31





# Lanes, Volumes, Timings

## 4: Route 31 & Lakeshore Road

07/05/2022

|                            |  |                                                                                    |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                                                                                                                 | WBT                                                                               | WBR                                                                               | SBL                                                                               | SBR                                                                               |
| Lane Configurations        |  |   |  |                                                                                   |                                                                                   |  |
| Traffic Volume (vph)       | 720                                                                               | 1014                                                                                                                                                                | 922                                                                               | 1                                                                                 | 0                                                                                 | 484                                                                               |
| Future Volume (vph)        | 720                                                                               | 1014                                                                                                                                                                | 922                                                                               | 1                                                                                 | 0                                                                                 | 484                                                                               |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                                                                                                                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Storage Length (ft)        | 225                                                                               |                                                                                                                                                                     |                                                                                   | 0                                                                                 | 0                                                                                 | 0                                                                                 |
| Storage Lanes              | 1                                                                                 |                                                                                                                                                                     |                                                                                   | 0                                                                                 | 0                                                                                 | 1                                                                                 |
| Taper Length (ft)          | 75                                                                                |                                                                                                                                                                     |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |
| Satd. Flow (prot)          | 1787                                                                              | 3574                                                                                                                                                                | 1863                                                                              | 0                                                                                 | 0                                                                                 | 1611                                                                              |
| Flt Permitted              | 0.062                                                                             |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Satd. Flow (perm)          | 117                                                                               | 3574                                                                                                                                                                | 1863                                                                              | 0                                                                                 | 0                                                                                 | 1611                                                                              |
| Right Turn on Red          |                                                                                   |                                                                                                                                                                     |                                                                                   | Yes                                                                               |                                                                                   | Yes                                                                               |
| Satd. Flow (RTOR)          |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                   | 94                                                                                |
| Link Speed (mph)           |                                                                                   | 35                                                                                                                                                                  | 35                                                                                |                                                                                   | 35                                                                                |                                                                                   |
| Link Distance (ft)         |                                                                                   | 1082                                                                                                                                                                | 959                                                                               |                                                                                   | 962                                                                               |                                                                                   |
| Travel Time (s)            |                                                                                   | 21.1                                                                                                                                                                | 18.7                                                                              |                                                                                   | 18.7                                                                              |                                                                                   |
| Peak Hour Factor           | 0.92                                                                              | 0.92                                                                                                                                                                | 0.93                                                                              | 0.93                                                                              | 0.91                                                                              | 0.91                                                                              |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                                                                                                  | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)      | 783                                                                               | 1102                                                                                                                                                                | 992                                                                               | 0                                                                                 | 0                                                                                 | 532                                                                               |
| Enter Blocked Intersection | No                                                                                | No                                                                                                                                                                  | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment             | Left                                                                              | Left                                                                                                                                                                | Left                                                                              | Right                                                                             | Left                                                                              | Right                                                                             |
| Median Width(ft)           |                                                                                   | 12                                                                                                                                                                  | 12                                                                                |                                                                                   | 0                                                                                 |                                                                                   |
| Link Offset(ft)            |                                                                                   | 0                                                                                                                                                                   | 0                                                                                 |                                                                                   | 0                                                                                 |                                                                                   |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                                                                                                  | 16                                                                                |                                                                                   | 16                                                                                |                                                                                   |
| Two way Left Turn Lane     |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Headway Factor             | 1.00                                                                              | 1.00                                                                                                                                                                | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (mph)        | 15                                                                                |                                                                                                                                                                     |                                                                                   | 9                                                                                 | 15                                                                                | 9                                                                                 |
| Turn Type                  | pm+pt                                                                             | NA                                                                                                                                                                  | NA                                                                                |                                                                                   |                                                                                   | Over                                                                              |
| Protected Phases           | 5                                                                                 | 2                                                                                                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 5                                                                                 |
| Permitted Phases           | 2                                                                                 |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Detector Phase             | 5                                                                                 | 2                                                                                                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 5                                                                                 |
| Switch Phase               |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Minimum Initial (s)        | 6.0                                                                               | 10.0                                                                                                                                                                | 10.0                                                                              |                                                                                   |                                                                                   | 6.0                                                                               |
| Minimum Split (s)          | 11.0                                                                              | 15.0                                                                                                                                                                | 15.0                                                                              |                                                                                   |                                                                                   | 11.0                                                                              |
| Total Split (s)            | 46.0                                                                              | 110.0                                                                                                                                                               | 64.0                                                                              |                                                                                   |                                                                                   | 46.0                                                                              |
| Total Split (%)            | 41.8%                                                                             | 100.0%                                                                                                                                                              | 58.2%                                                                             |                                                                                   |                                                                                   | 41.8%                                                                             |
| Maximum Green (s)          | 41.0                                                                              | 105.0                                                                                                                                                               | 59.0                                                                              |                                                                                   |                                                                                   | 41.0                                                                              |
| Yellow Time (s)            | 4.0                                                                               | 4.0                                                                                                                                                                 | 4.0                                                                               |                                                                                   |                                                                                   | 4.0                                                                               |
| All-Red Time (s)           | 1.0                                                                               | 1.0                                                                                                                                                                 | 1.0                                                                               |                                                                                   |                                                                                   | 1.0                                                                               |
| Lost Time Adjust (s)       | 0.0                                                                               | 0.0                                                                                                                                                                 | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |
| Total Lost Time (s)        | 5.0                                                                               | 5.0                                                                                                                                                                 | 5.0                                                                               |                                                                                   |                                                                                   | 5.0                                                                               |
| Lead/Lag                   | Lead                                                                              |                                                                                                                                                                     | Lag                                                                               |                                                                                   |                                                                                   | Lead                                                                              |
| Lead-Lag Optimize?         | Yes                                                                               |                                                                                                                                                                     | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |
| Vehicle Extension (s)      | 3.0                                                                               | 3.0                                                                                                                                                                 | 3.0                                                                               |                                                                                   |                                                                                   | 3.0                                                                               |
| Recall Mode                | None                                                                              | C-Max                                                                                                                                                               | C-Max                                                                             |                                                                                   |                                                                                   | None                                                                              |
| Act Effct Green (s)        | 105.0                                                                             | 110.0                                                                                                                                                               | 59.0                                                                              |                                                                                   |                                                                                   | 41.0                                                                              |
| Actuated g/C Ratio         | 0.95                                                                              | 1.00                                                                                                                                                                | 0.54                                                                              |                                                                                   |                                                                                   | 0.37                                                                              |
| v/c Ratio                  | 1.07                                                                              | 0.31                                                                                                                                                                | 0.99                                                                              |                                                                                   |                                                                                   | 0.81                                                                              |
| Control Delay              | 76.5                                                                              | 0.1                                                                                                                                                                 | 53.1                                                                              |                                                                                   |                                                                                   | 36.3                                                                              |



#### 4: Route 31 & Lakeshore Road

07/05/2022

|                         |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | WBT                                                                               | WBR                                                                               | SBL                                                                               | SBR                                                                               |
| Queue Delay             | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |
| Total Delay             | 76.5                                                                              | 0.1                                                                               | 53.1                                                                              |                                                                                   |                                                                                   | 36.3                                                                              |
| LOS                     | E                                                                                 | A                                                                                 | D                                                                                 |                                                                                   |                                                                                   | D                                                                                 |
| Approach Delay          |                                                                                   | 31.9                                                                              | 53.1                                                                              |                                                                                   | 36.3                                                                              |                                                                                   |
| Approach LOS            |                                                                                   | C                                                                                 | D                                                                                 |                                                                                   | D                                                                                 |                                                                                   |
| Queue Length 50th (ft)  | ~570                                                                              | 0                                                                                 | 663                                                                               |                                                                                   |                                                                                   | 281                                                                               |
| Queue Length 95th (ft)  | m#675                                                                             | m0                                                                                | #971                                                                              |                                                                                   |                                                                                   | #462                                                                              |
| Internal Link Dist (ft) |                                                                                   | 1002                                                                              | 879                                                                               |                                                                                   | 882                                                                               |                                                                                   |
| Turn Bay Length (ft)    | 225                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Base Capacity (vph)     | 734                                                                               | 3574                                                                              | 999                                                                               |                                                                                   |                                                                                   | 659                                                                               |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |
| Reduced v/c Ratio       | 1.07                                                                              | 0.31                                                                              | 0.99                                                                              |                                                                                   |                                                                                   | 0.81                                                                              |

## Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 23 (21%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.07

Intersection Signal Delay: 38.7

Intersection LOS: D

Intersection Capacity Utilization 96.8%

ICU Level of Service F

Analysis Period (min) 15

- ~ Volume exceeds capacity, queue is theoretically infinite.

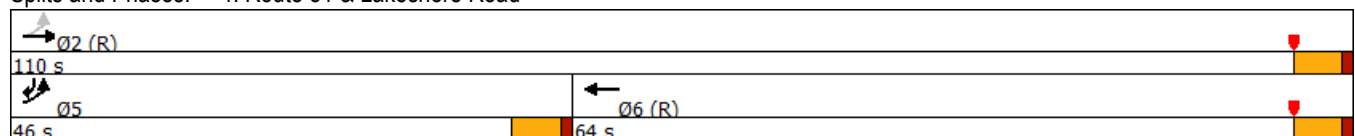
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: Route 31 & Lakeshore Road





Lanes, Volumes, Timings  
5: South Bay Road & Route 31

07/05/2022

|                            |  |  |  |  |  |  |   |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |  |  |                                                                                   |  |  |                                                                                   |  |  |  |  |  |  |
| Traffic Volume (vph)       | 128                                                                               | 446                                                                               | 111                                                                               | 141                                                                               | 343                                                                               | 19                                                                                | 76                                                                                 | 478                                                                                 | 207                                                                                 | 8                                                                                   | 276                                                                                 | 102                                                                                 |
| Future Volume (vph)        | 128                                                                               | 446                                                                               | 111                                                                               | 141                                                                               | 343                                                                               | 19                                                                                | 76                                                                                 | 478                                                                                 | 207                                                                                 | 8                                                                                   | 276                                                                                 | 102                                                                                 |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                               | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 225                                                                               |                                                                                   | 0                                                                                 | 225                                                                               |                                                                                   | 0                                                                                 | 280                                                                                |                                                                                     | 150                                                                                 | 225                                                                                 |                                                                                     | 0                                                                                   |
| Storage Lanes              | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                  |                                                                                     | 1                                                                                   | 1                                                                                   |                                                                                     | 0                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                 |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 1770                                                                              | 1807                                                                              | 0                                                                                 | 1752                                                                              | 1830                                                                              | 0                                                                                 | 1770                                                                               | 1863                                                                                | 1583                                                                                | 1770                                                                                | 1778                                                                                | 0                                                                                   |
| Flt Permitted              | 0.370                                                                             |                                                                                   |                                                                                   | 0.114                                                                             |                                                                                   |                                                                                   | 0.211                                                                              |                                                                                     |                                                                                     | 0.183                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)          | 689                                                                               | 1807                                                                              | 0                                                                                 | 210                                                                               | 1830                                                                              | 0                                                                                 | 393                                                                                | 1863                                                                                | 1583                                                                                | 341                                                                                 | 1778                                                                                | 0                                                                                   |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                    |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   | 13                                                                                |                                                                                   |                                                                                   | 3                                                                                 |                                                                                   |                                                                                    |                                                                                     | 139                                                                                 |                                                                                     | 17                                                                                  |                                                                                     |
| Link Speed (mph)           |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 55                                                                                |                                                                                   |                                                                                    | 45                                                                                  |                                                                                     |                                                                                     | 45                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 788                                                                               |                                                                                   |                                                                                   | 825                                                                               |                                                                                   |                                                                                    | 794                                                                                 |                                                                                     |                                                                                     | 652                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 11.9                                                                              |                                                                                   |                                                                                   | 10.2                                                                              |                                                                                   |                                                                                    | 12.0                                                                                |                                                                                     |                                                                                     | 9.9                                                                                 |                                                                                     |
| Confl. Peds. (#/hr)        |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1                                                                                  |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 1                                                                                   |
| Peak Hour Factor           | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.86                                                                               | 0.86                                                                                | 0.86                                                                                | 0.85                                                                                | 0.85                                                                                | 0.85                                                                                |
| Heavy Vehicles (%)         | 2%                                                                                | 2%                                                                                | 2%                                                                                | 3%                                                                                | 3%                                                                                | 3%                                                                                | 2%                                                                                 | 2%                                                                                  | 2%                                                                                  | 2%                                                                                  | 2%                                                                                  | 2%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 139                                                                               | 606                                                                               | 0                                                                                 | 152                                                                               | 389                                                                               | 0                                                                                 | 88                                                                                 | 556                                                                                 | 241                                                                                 | 9                                                                                   | 445                                                                                 | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                 | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                               | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                    | 12                                                                                  |                                                                                     |                                                                                     | 12                                                                                  |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                    | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                    | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                 |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                              | NA                                                                                  | Perm                                                                                | pm+pt                                                                               | NA                                                                                  |                                                                                     |
| Protected Phases           | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 3                                                                                  | 8                                                                                   |                                                                                     | 7                                                                                   | 4                                                                                   |                                                                                     |
| Permitted Phases           | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                  |                                                                                     | 8                                                                                   | 4                                                                                   |                                                                                     |                                                                                     |
| Detector Phase             | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 3                                                                                  | 8                                                                                   | 8                                                                                   | 7                                                                                   | 4                                                                                   |                                                                                     |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 6.0                                                                               | 15.0                                                                              |                                                                                   | 6.0                                                                               | 15.0                                                                              |                                                                                   | 6.0                                                                                | 10.0                                                                                | 10.0                                                                                | 6.0                                                                                 | 10.0                                                                                |                                                                                     |
| Minimum Split (s)          | 10.5                                                                              | 22.8                                                                              |                                                                                   | 10.5                                                                              | 22.8                                                                              |                                                                                   | 10.5                                                                               | 16.8                                                                                | 16.8                                                                                | 10.5                                                                                | 16.8                                                                                |                                                                                     |
| Total Split (s)            | 12.0                                                                              | 48.0                                                                              |                                                                                   | 12.0                                                                              | 48.0                                                                              |                                                                                   | 12.0                                                                               | 38.0                                                                                | 38.0                                                                                | 12.0                                                                                | 38.0                                                                                |                                                                                     |
| Total Split (%)            | 10.9%                                                                             | 43.6%                                                                             |                                                                                   | 10.9%                                                                             | 43.6%                                                                             |                                                                                   | 10.9%                                                                              | 34.5%                                                                               | 34.5%                                                                               | 10.9%                                                                               | 34.5%                                                                               |                                                                                     |
| Maximum Green (s)          | 7.5                                                                               | 40.2                                                                              |                                                                                   | 7.5                                                                               | 40.2                                                                              |                                                                                   | 7.5                                                                                | 31.2                                                                                | 31.2                                                                                | 7.5                                                                                 | 31.2                                                                                |                                                                                     |
| Yellow Time (s)            | 3.5                                                                               | 4.9                                                                               |                                                                                   | 3.5                                                                               | 4.9                                                                               |                                                                                   | 3.5                                                                                | 4.9                                                                                 | 4.9                                                                                 | 3.5                                                                                 | 4.9                                                                                 |                                                                                     |
| All-Red Time (s)           | 1.0                                                                               | 2.9                                                                               |                                                                                   | 1.0                                                                               | 2.9                                                                               |                                                                                   | 1.0                                                                                | 1.9                                                                                 | 1.9                                                                                 | 1.0                                                                                 | 1.9                                                                                 |                                                                                     |
| Lost Time Adjust (s)       | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                                | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)        | 4.5                                                                               | 7.8                                                                               |                                                                                   | 4.5                                                                               | 7.8                                                                               |                                                                                   | 4.5                                                                                | 6.8                                                                                 | 6.8                                                                                 | 4.5                                                                                 | 6.8                                                                                 |                                                                                     |
| Lead/Lag                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                               | Lag                                                                                 | Lag                                                                                 | Lead                                                                                | Lag                                                                                 |                                                                                     |
| Lead-Lag Optimize?         | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                                | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 |                                                                                     |
| Vehicle Extension (s)      | 3.0                                                                               | 6.0                                                                               |                                                                                   | 3.0                                                                               | 6.0                                                                               |                                                                                   | 3.0                                                                                | 6.0                                                                                 | 6.0                                                                                 | 3.0                                                                                 | 6.0                                                                                 |                                                                                     |
| Minimum Gap (s)            | 3.0                                                                               | 2.0                                                                               |                                                                                   | 3.0                                                                               | 2.0                                                                               |                                                                                   | 3.0                                                                                | 2.0                                                                                 | 2.0                                                                                 | 3.0                                                                                 | 2.0                                                                                 |                                                                                     |
| Time Before Reduce (s)     | 0.0                                                                               | 10.0                                                                              |                                                                                   | 0.0                                                                               | 10.0                                                                              |                                                                                   | 0.0                                                                                | 10.0                                                                                | 10.0                                                                                | 0.0                                                                                 | 10.0                                                                                |                                                                                     |
| Time To Reduce (s)         | 0.0                                                                               | 15.0                                                                              |                                                                                   | 0.0                                                                               | 15.0                                                                              |                                                                                   | 0.0                                                                                | 15.0                                                                                | 15.0                                                                                | 0.0                                                                                 | 15.0                                                                                |                                                                                     |
| Recall Mode                | None                                                                              | Min                                                                               |                                                                                   | None                                                                              | Min                                                                               |                                                                                   | None                                                                               | None                                                                                | None                                                                                | None                                                                                | None                                                                                |                                                                                     |



# Lanes, Volumes, Timings

## 5: South Bay Road & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Act Effect Green (s)    | 49.0                                                                              | 38.3                                                                              |                                                                                   | 49.2                                                                              | 38.3                                                                              |                                                                                   | 42.2                                                                               | 38.5                                                                                | 38.5                                                                                | 38.6                                                                                | 31.4                                                                                |                                                                                     |
| Actuated g/C Ratio      | 0.46                                                                              | 0.36                                                                              |                                                                                   | 0.47                                                                              | 0.36                                                                              |                                                                                   | 0.40                                                                               | 0.36                                                                                | 0.36                                                                                | 0.37                                                                                | 0.30                                                                                |                                                                                     |
| v/c Ratio               | 0.35                                                                              | 0.92                                                                              |                                                                                   | 0.73                                                                              | 0.58                                                                              |                                                                                   | 0.35                                                                               | 0.82                                                                                | 0.36                                                                                | 0.04                                                                                | 0.82                                                                                |                                                                                     |
| Control Delay           | 17.3                                                                              | 52.4                                                                              |                                                                                   | 38.5                                                                              | 31.7                                                                              |                                                                                   | 24.0                                                                               | 43.1                                                                                | 13.1                                                                                | 19.6                                                                                | 48.8                                                                                |                                                                                     |
| Queue Delay             | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                                | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Delay             | 17.3                                                                              | 52.4                                                                              |                                                                                   | 38.5                                                                              | 31.7                                                                              |                                                                                   | 24.0                                                                               | 43.1                                                                                | 13.1                                                                                | 19.6                                                                                | 48.8                                                                                |                                                                                     |
| LOS                     | B                                                                                 | D                                                                                 |                                                                                   | D                                                                                 | C                                                                                 |                                                                                   | C                                                                                  | D                                                                                   | B                                                                                   | B                                                                                   | D                                                                                   |                                                                                     |
| Approach Delay          |                                                                                   | 45.8                                                                              |                                                                                   |                                                                                   | 33.6                                                                              |                                                                                   |                                                                                    | 33.0                                                                                |                                                                                     |                                                                                     | 48.3                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                    | C                                                                                   |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 51                                                                                | 395                                                                               |                                                                                   | 56                                                                                | 217                                                                               |                                                                                   | 38                                                                                 | 335                                                                                 | 46                                                                                  | 4                                                                                   | 288                                                                                 |                                                                                     |
| Queue Length 95th (ft)  | 87                                                                                | #614                                                                              |                                                                                   | #143                                                                              | 318                                                                               |                                                                                   | 67                                                                                 | #588                                                                                | 116                                                                                 | 13                                                                                  | #417                                                                                |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 708                                                                               |                                                                                   |                                                                                   | 745                                                                               |                                                                                   |                                                                                    | 714                                                                                 |                                                                                     |                                                                                     | 572                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 225                                                                               |                                                                                   |                                                                                   | 225                                                                               |                                                                                   |                                                                                   | 280                                                                                |                                                                                     | 150                                                                                 | 225                                                                                 |                                                                                     |                                                                                     |
| Base Capacity (vph)     | 397                                                                               | 700                                                                               |                                                                                   | 208                                                                               | 702                                                                               |                                                                                   | 255                                                                                | 678                                                                                 | 664                                                                                 | 229                                                                                 | 540                                                                                 |                                                                                     |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       | 0.35                                                                              | 0.87                                                                              |                                                                                   | 0.73                                                                              | 0.55                                                                              |                                                                                   | 0.35                                                                               | 0.82                                                                                | 0.36                                                                                | 0.04                                                                                | 0.82                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 105.7

Natural Cycle: 100

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.92

Intersection Signal Delay: 39.4

Intersection LOS: D

Intersection Capacity Utilization 87.9%

ICU Level of Service E

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

### Splits and Phases: 5: South Bay Road & Route 31

|                                                                                        |                                                                                        |                                                                                        |                                                                                          |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
|  Ø1 |  Ø2 |  Ø3 |  Ø4 |
| 12 s                                                                                   | 48 s                                                                                   | 12 s                                                                                   | 38 s                                                                                     |
|  Ø5 |  Ø6 |  Ø7 |  Ø8 |
| 12 s                                                                                   | 48 s                                                                                   | 12 s                                                                                   | 38 s                                                                                     |



# Lanes, Volumes, Timings

## 6: Cicero Center Road & Route 31

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (vph)       | 97                                                                                | 453                                                                               | 23                                                                                | 6                                                                                 | 401                                                                               | 58                                                                                | 19                                                                                | 41                                                                                  | 14                                                                                  | 44                                                                                  | 19                                                                                  | 54                                                                                  |
| Future Volume (vph)        | 97                                                                                | 453                                                                               | 23                                                                                | 6                                                                                 | 401                                                                               | 58                                                                                | 19                                                                                | 41                                                                                  | 14                                                                                  | 44                                                                                  | 19                                                                                  | 54                                                                                  |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Satd. Flow (prot)          | 0                                                                                 | 1857                                                                              | 0                                                                                 | 0                                                                                 | 1847                                                                              | 0                                                                                 | 0                                                                                 | 1810                                                                                | 0                                                                                   | 0                                                                                   | 1731                                                                                | 0                                                                                   |
| Flt Permitted              |                                                                                   | 0.843                                                                             |                                                                                   |                                                                                   | 0.993                                                                             |                                                                                   |                                                                                   | 0.909                                                                               |                                                                                     |                                                                                     | 0.833                                                                               |                                                                                     |
| Satd. Flow (perm)          | 0                                                                                 | 1578                                                                              | 0                                                                                 | 0                                                                                 | 1836                                                                              | 0                                                                                 | 0                                                                                 | 1667                                                                                | 0                                                                                   | 0                                                                                   | 1470                                                                                | 0                                                                                   |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 20                                                                                |                                                                                   |                                                                                   | 19                                                                                  |                                                                                     |                                                                                     | 66                                                                                  |                                                                                     |
| Link Speed (mph)           |                                                                                   | 55                                                                                |                                                                                   |                                                                                   | 55                                                                                |                                                                                   |                                                                                   | 55                                                                                  |                                                                                     |                                                                                     | 55                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 583                                                                               |                                                                                   |                                                                                   | 608                                                                               |                                                                                   |                                                                                   | 500                                                                                 |                                                                                     |                                                                                     | 505                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 7.2                                                                               |                                                                                   |                                                                                   | 7.5                                                                               |                                                                                   |                                                                                   | 6.2                                                                                 |                                                                                     |                                                                                     | 6.3                                                                                 |                                                                                     |
| Peak Hour Factor           | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.73                                                                              | 0.73                                                                                | 0.73                                                                                | 0.82                                                                                | 0.82                                                                                | 0.82                                                                                |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 0                                                                                 | 651                                                                               | 0                                                                                 | 0                                                                                 | 499                                                                               | 0                                                                                 | 0                                                                                 | 101                                                                                 | 0                                                                                   | 0                                                                                   | 143                                                                                 | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                  |                                                                                     | Perm                                                                                | NA                                                                                  |                                                                                     |
| Protected Phases           |                                                                                   | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                   |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |
| Permitted Phases           | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |                                                                                     |
| Detector Phase             | 2                                                                                 | 2                                                                                 |                                                                                   | 6                                                                                 | 6                                                                                 |                                                                                   | 8                                                                                 | 8                                                                                   |                                                                                     | 4                                                                                   | 4                                                                                   |                                                                                     |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 15.0                                                                              | 15.0                                                                              |                                                                                   | 15.0                                                                              | 15.0                                                                              |                                                                                   | 7.0                                                                               | 7.0                                                                                 |                                                                                     | 7.0                                                                                 | 7.0                                                                                 |                                                                                     |
| Minimum Split (s)          | 21.0                                                                              | 21.0                                                                              |                                                                                   | 21.0                                                                              | 21.0                                                                              |                                                                                   | 12.0                                                                              | 12.0                                                                                |                                                                                     | 12.0                                                                                | 12.0                                                                                |                                                                                     |
| Total Split (s)            | 30.0                                                                              | 30.0                                                                              |                                                                                   | 30.0                                                                              | 30.0                                                                              |                                                                                   | 20.0                                                                              | 20.0                                                                                |                                                                                     | 20.0                                                                                | 20.0                                                                                |                                                                                     |
| Total Split (%)            | 60.0%                                                                             | 60.0%                                                                             |                                                                                   | 60.0%                                                                             | 60.0%                                                                             |                                                                                   | 40.0%                                                                             | 40.0%                                                                               |                                                                                     | 40.0%                                                                               | 40.0%                                                                               |                                                                                     |
| Maximum Green (s)          | 24.0                                                                              | 24.0                                                                              |                                                                                   | 24.0                                                                              | 24.0                                                                              |                                                                                   | 15.0                                                                              | 15.0                                                                                |                                                                                     | 15.0                                                                                | 15.0                                                                                |                                                                                     |
| Yellow Time (s)            | 4.0                                                                               | 4.0                                                                               |                                                                                   | 4.0                                                                               | 4.0                                                                               |                                                                                   | 4.0                                                                               | 4.0                                                                                 |                                                                                     | 4.0                                                                                 | 4.0                                                                                 |                                                                                     |
| All-Red Time (s)           | 2.0                                                                               | 2.0                                                                               |                                                                                   | 2.0                                                                               | 2.0                                                                               |                                                                                   | 1.0                                                                               | 1.0                                                                                 |                                                                                     | 1.0                                                                                 | 1.0                                                                                 |                                                                                     |
| Lost Time Adjust (s)       |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                                 |                                                                                     |                                                                                     | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)        |                                                                                   | 6.0                                                                               |                                                                                   |                                                                                   | 6.0                                                                               |                                                                                   |                                                                                   | 5.0                                                                                 |                                                                                     |                                                                                     | 5.0                                                                                 |                                                                                     |
| Lead/Lag                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?         |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Vehicle Extension (s)      | 5.0                                                                               | 5.0                                                                               |                                                                                   | 5.0                                                                               | 5.0                                                                               |                                                                                   | 2.0                                                                               | 2.0                                                                                 |                                                                                     | 2.0                                                                                 | 2.0                                                                                 |                                                                                     |
| Recall Mode                | Max                                                                               | Max                                                                               |                                                                                   | Max                                                                               | Max                                                                               |                                                                                   | None                                                                              | None                                                                                |                                                                                     | None                                                                                | None                                                                                |                                                                                     |
| Act Effect Green (s)       |                                                                                   | 28.1                                                                              |                                                                                   |                                                                                   | 28.1                                                                              |                                                                                   |                                                                                   | 8.0                                                                                 |                                                                                     |                                                                                     | 8.0                                                                                 |                                                                                     |
| Actuated g/C Ratio         |                                                                                   | 0.64                                                                              |                                                                                   |                                                                                   | 0.64                                                                              |                                                                                   |                                                                                   | 0.18                                                                                |                                                                                     |                                                                                     | 0.18                                                                                |                                                                                     |
| v/c Ratio                  |                                                                                   | 0.64                                                                              |                                                                                   |                                                                                   | 0.42                                                                              |                                                                                   |                                                                                   | 0.31                                                                                |                                                                                     |                                                                                     | 0.44                                                                                |                                                                                     |
| Control Delay              |                                                                                   | 12.1                                                                              |                                                                                   |                                                                                   | 6.9                                                                               |                                                                                   |                                                                                   | 15.5                                                                                |                                                                                     |                                                                                     | 14.0                                                                                |                                                                                     |
| Queue Delay                |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                                 |                                                                                     |                                                                                     | 0.0                                                                                 |                                                                                     |
| Total Delay                |                                                                                   | 12.1                                                                              |                                                                                   |                                                                                   | 6.9                                                                               |                                                                                   |                                                                                   | 15.5                                                                                |                                                                                     |                                                                                     | 14.0                                                                                |                                                                                     |
| LOS                        |                                                                                   | B                                                                                 |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | B                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |



# Lanes, Volumes, Timings

## 6: Cicero Center Road & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Approach Delay          |                                                                                   | 12.1                                                                              |                                                                                   |                                                                                   | 6.9                                                                               |                                                                                   |                                                                                    | 15.5                                                                                |                                                                                     |                                                                                     | 14.0                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | B                                                                                 |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |                                                                                    | B                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| Queue Length 50th (ft)  |                                                                                   | 91                                                                                |                                                                                   |                                                                                   | 54                                                                                |                                                                                   |                                                                                    | 17                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Queue Length 95th (ft)  |                                                                                   | #284                                                                              |                                                                                   |                                                                                   | 133                                                                               |                                                                                   |                                                                                    | 36                                                                                  |                                                                                     |                                                                                     | 45                                                                                  |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 503                                                                               |                                                                                   |                                                                                   | 528                                                                               |                                                                                   |                                                                                    | 420                                                                                 |                                                                                     |                                                                                     | 425                                                                                 |                                                                                     |
| Turn Bay Length (ft)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Base Capacity (vph)     |                                                                                   | 1018                                                                              |                                                                                   |                                                                                   | 1189                                                                              |                                                                                   |                                                                                    | 586                                                                                 |                                                                                     |                                                                                     | 549                                                                                 |                                                                                     |
| Starvation Cap Reductn  |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                    | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                    | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                    | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       |                                                                                   | 0.64                                                                              |                                                                                   |                                                                                   | 0.42                                                                              |                                                                                   |                                                                                    | 0.17                                                                                |                                                                                     |                                                                                     | 0.26                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Cycle Length: 50

Actuated Cycle Length: 43.6

Natural Cycle: 50

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 10.7

Intersection LOS: B

Intersection Capacity Utilization 80.3%

ICU Level of Service D

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: Cicero Center Road & Route 31

|                                                                                        |                                                                                        |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
|  Ø2 |  Ø4 |
| 30 s                                                                                   | 20 s                                                                                   |
|  Ø6 |  Ø8 |
| 30 s                                                                                   | 20 s                                                                                   |



# Lanes, Volumes, Timings

## 7: Route 31 & Lakeshore Road (East)

07/05/2022

|                            |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | WBT                                                                               | WBR                                                                               | SBL                                                                               | SBR                                                                               |
| Lane Configurations        |                                                                                   |  |  |                                                                                   |  |                                                                                   |
| Traffic Volume (vph)       | 47                                                                                | 488                                                                               | 427                                                                               | 83                                                                                | 66                                                                                | 22                                                                                |
| Future Volume (vph)        | 47                                                                                | 488                                                                               | 427                                                                               | 83                                                                                | 66                                                                                | 22                                                                                |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Satd. Flow (prot)          | 0                                                                                 | 1874                                                                              | 1840                                                                              | 0                                                                                 | 1752                                                                              | 0                                                                                 |
| Flt Permitted              |                                                                                   | 0.996                                                                             |                                                                                   |                                                                                   | 0.964                                                                             |                                                                                   |
| Satd. Flow (perm)          | 0                                                                                 | 1874                                                                              | 1840                                                                              | 0                                                                                 | 1752                                                                              | 0                                                                                 |
| Link Speed (mph)           |                                                                                   | 55                                                                                | 55                                                                                |                                                                                   | 35                                                                                |                                                                                   |
| Link Distance (ft)         |                                                                                   | 516                                                                               | 592                                                                               |                                                                                   | 420                                                                               |                                                                                   |
| Travel Time (s)            |                                                                                   | 6.4                                                                               | 7.3                                                                               |                                                                                   | 8.2                                                                               |                                                                                   |
| Peak Hour Factor           | 0.87                                                                              | 0.87                                                                              | 0.89                                                                              | 0.89                                                                              | 0.81                                                                              | 0.81                                                                              |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)      | 0                                                                                 | 615                                                                               | 573                                                                               | 0                                                                                 | 108                                                                               | 0                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment             | Left                                                                              | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Right                                                                             |
| Median Width(ft)           |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 12                                                                                |                                                                                   |
| Link Offset(ft)            |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 |                                                                                   |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                | 16                                                                                |                                                                                   | 16                                                                                |                                                                                   |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (mph)        | 15                                                                                |                                                                                   |                                                                                   | 9                                                                                 | 15                                                                                | 9                                                                                 |
| Sign Control               |                                                                                   | Free                                                                              | Free                                                                              |                                                                                   | Stop                                                                              |                                                                                   |

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 70.8%

ICU Level of Service C

Analysis Period (min) 15



HCM 6th TWSC  
7: Route 31 & Lakeshore Road (East)

07/05/2022

Intersection

Int Delay, s/veh 3.3

| Movement                 | EBL  | EBT                                                                               | WBT                                                                               | WBR  | SBL                                                                               | SBR  |
|--------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|------|
| Lane Configurations      |      |  |  |      |  |      |
| Traffic Vol, veh/h       | 47   | 488                                                                               | 427                                                                               | 83   | 66                                                                                | 22   |
| Future Vol, veh/h        | 47   | 488                                                                               | 427                                                                               | 83   | 66                                                                                | 22   |
| Conflicting Peds, #/hr   | 0    | 0                                                                                 | 0                                                                                 | 0    | 0                                                                                 | 0    |
| Sign Control             | Free | Free                                                                              | Free                                                                              | Free | Stop                                                                              | Stop |
| RT Channelized           | -    | None                                                                              | -                                                                                 | None | -                                                                                 | None |
| Storage Length           | -    | -                                                                                 | -                                                                                 | -    | 0                                                                                 | -    |
| Veh in Median Storage, # | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Grade, %                 | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Peak Hour Factor         | 87   | 87                                                                                | 89                                                                                | 89   | 81                                                                                | 81   |
| Heavy Vehicles, %        | 1    | 1                                                                                 | 1                                                                                 | 1    | 1                                                                                 | 1    |
| Mvmt Flow                | 54   | 561                                                                               | 480                                                                               | 93   | 81                                                                                | 27   |

| Major/Minor          | Major1 | Major2 | Minor2        |
|----------------------|--------|--------|---------------|
| Conflicting Flow All | 573    | 0      | 0 1196 527    |
| Stage 1              | -      | -      | - 527 -       |
| Stage 2              | -      | -      | - 669 -       |
| Critical Hdwy        | 4.11   | -      | - 6.41 6.21   |
| Critical Hdwy Stg 1  | -      | -      | - 5.41 -      |
| Critical Hdwy Stg 2  | -      | -      | - 5.41 -      |
| Follow-up Hdwy       | 2.209  | -      | - 3.509 3.309 |
| Pot Cap-1 Maneuver   | 1005   | -      | - 207 553     |
| Stage 1              | -      | -      | - 594 -       |
| Stage 2              | -      | -      | - 511 -       |
| Platoon blocked, %   | -      | -      | -             |
| Mov Cap-1 Maneuver   | 1005   | -      | - 191 553     |
| Mov Cap-2 Maneuver   | -      | -      | - 191 -       |
| Stage 1              | -      | -      | - 548 -       |
| Stage 2              | -      | -      | - 511 -       |

| Approach             | EB  | WB | SB   |
|----------------------|-----|----|------|
| HCM Control Delay, s | 0.8 | 0  | 34.4 |
| HCM LOS              |     |    | D    |

| Minor Lane/Major Mvmt | EBL   | EBT | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-----|-------|
| Capacity (veh/h)      | 1005  | -   | -   | -   | 228   |
| HCM Lane V/C Ratio    | 0.054 | -   | -   | -   | 0.476 |
| HCM Control Delay (s) | 8.8   | 0   | -   | -   | 34.4  |
| HCM Lane LOS          | A     | A   | -   | -   | D     |
| HCM 95th %tile Q(veh) | 0.2   | -   | -   | -   | 2.4   |



# Lanes, Volumes, Timings

## 8: Thompson Road & South Bay Road

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |  |  |                                                                                   |  |  |                                                                                   |                                                                                   |  |  |                                                                                     |  |  |
| Traffic Volume (vph)       | 316                                                                               | 442                                                                               | 2                                                                                 | 184                                                                               | 365                                                                               | 24                                                                                | 19                                                                                | 323                                                                                 | 322                                                                                 | 9                                                                                   | 150                                                                                 | 238                                                                                 |
| Future Volume (vph)        | 316                                                                               | 442                                                                               | 2                                                                                 | 184                                                                               | 365                                                                               | 24                                                                                | 19                                                                                | 323                                                                                 | 322                                                                                 | 9                                                                                   | 150                                                                                 | 238                                                                                 |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 300                                                                               |                                                                                   | 0                                                                                 | 250                                                                               |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                     | 210                                                                                 | 0                                                                                   |                                                                                     | 600                                                                                 |
| Storage Lanes              | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                     | 1                                                                                   | 0                                                                                   |                                                                                     | 1                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 1787                                                                              | 1879                                                                              | 0                                                                                 | 1787                                                                              | 1864                                                                              | 0                                                                                 | 0                                                                                 | 1857                                                                                | 1583                                                                                | 0                                                                                   | 1876                                                                                | 1599                                                                                |
| Flt Permitted              | 0.171                                                                             |                                                                                   |                                                                                   | 0.277                                                                             |                                                                                   |                                                                                   |                                                                                   | 0.973                                                                               |                                                                                     |                                                                                     | 0.935                                                                               |                                                                                     |
| Satd. Flow (perm)          | 322                                                                               | 1879                                                                              | 0                                                                                 | 521                                                                               | 1864                                                                              | 0                                                                                 | 0                                                                                 | 1812                                                                                | 1583                                                                                | 0                                                                                   | 1759                                                                                | 1599                                                                                |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 5                                                                                 |                                                                                   |                                                                                   |                                                                                     | 160                                                                                 |                                                                                     |                                                                                     | 154                                                                                 |
| Link Speed (mph)           |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 45                                                                                  |                                                                                     |                                                                                     | 45                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 1324                                                                              |                                                                                   |                                                                                   | 1155                                                                              |                                                                                   |                                                                                   | 1095                                                                                |                                                                                     |                                                                                     | 1033                                                                                |                                                                                     |
| Travel Time (s)            |                                                                                   | 20.1                                                                              |                                                                                   |                                                                                   | 17.5                                                                              |                                                                                   |                                                                                   | 16.6                                                                                |                                                                                     |                                                                                     | 15.7                                                                                |                                                                                     |
| Peak Hour Factor           | 0.84                                                                              | 0.84                                                                              | 0.84                                                                              | 0.80                                                                              | 0.80                                                                              | 0.80                                                                              | 0.94                                                                              | 0.94                                                                                | 0.94                                                                                | 0.84                                                                                | 0.84                                                                                | 0.84                                                                                |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 2%                                                                                | 2%                                                                                  | 2%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 376                                                                               | 528                                                                               | 0                                                                                 | 230                                                                               | 486                                                                               | 0                                                                                 | 0                                                                                 | 364                                                                                 | 343                                                                                 | 0                                                                                   | 190                                                                                 | 283                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                             | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                  | pm+ov                                                                               | Perm                                                                                | NA                                                                                  | pm+ov                                                                               |
| Protected Phases           | 7                                                                                 | 4                                                                                 |                                                                                   | 3                                                                                 | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                   | 3                                                                                   |                                                                                     | 6                                                                                   | 7                                                                                   |
| Permitted Phases           | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                 |                                                                                     | 2                                                                                   | 6                                                                                   |                                                                                     | 6                                                                                   |
| Detector Phase             | 7                                                                                 | 4                                                                                 |                                                                                   | 3                                                                                 | 8                                                                                 |                                                                                   | 2                                                                                 | 2                                                                                   | 3                                                                                   | 6                                                                                   | 6                                                                                   | 7                                                                                   |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 5.0                                                                               | 10.0                                                                              |                                                                                   | 5.0                                                                               | 5.0                                                                               |                                                                                   | 10.0                                                                              | 10.0                                                                                | 5.0                                                                                 | 10.0                                                                                | 10.0                                                                                | 5.0                                                                                 |
| Minimum Split (s)          | 12.0                                                                              | 17.0                                                                              |                                                                                   | 12.0                                                                              | 12.0                                                                              |                                                                                   | 16.5                                                                              | 16.5                                                                                | 12.0                                                                                | 16.5                                                                                | 16.5                                                                                | 12.0                                                                                |
| Total Split (s)            | 20.0                                                                              | 34.0                                                                              |                                                                                   | 16.0                                                                              | 30.0                                                                              |                                                                                   | 25.0                                                                              | 25.0                                                                                | 16.0                                                                                | 25.0                                                                                | 25.0                                                                                | 20.0                                                                                |
| Total Split (%)            | 26.7%                                                                             | 45.3%                                                                             |                                                                                   | 21.3%                                                                             | 40.0%                                                                             |                                                                                   | 33.3%                                                                             | 33.3%                                                                               | 21.3%                                                                               | 33.3%                                                                               | 33.3%                                                                               | 26.7%                                                                               |
| Maximum Green (s)          | 13.0                                                                              | 27.0                                                                              |                                                                                   | 9.0                                                                               | 23.0                                                                              |                                                                                   | 18.5                                                                              | 18.5                                                                                | 9.0                                                                                 | 18.5                                                                                | 18.5                                                                                | 13.0                                                                                |
| Yellow Time (s)            | 4.0                                                                               | 4.0                                                                               |                                                                                   | 4.0                                                                               | 4.0                                                                               |                                                                                   | 3.5                                                                               | 3.5                                                                                 | 4.0                                                                                 | 3.5                                                                                 | 3.5                                                                                 | 4.0                                                                                 |
| All-Red Time (s)           | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |
| Lost Time Adjust (s)       | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                                 | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |
| Total Lost Time (s)        | 7.0                                                                               | 7.0                                                                               |                                                                                   | 7.0                                                                               | 7.0                                                                               |                                                                                   |                                                                                   | 6.5                                                                                 | 7.0                                                                                 |                                                                                     | 6.5                                                                                 | 7.0                                                                                 |
| Lead/Lag                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                              | Lag                                                                               |                                                                                   |                                                                                   |                                                                                     | Lead                                                                                |                                                                                     |                                                                                     | Lead                                                                                |
| Lead-Lag Optimize?         | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                               | Yes                                                                               |                                                                                   |                                                                                   |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Vehicle Extension (s)      | 3.0                                                                               | 2.0                                                                               |                                                                                   | 3.0                                                                               | 2.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |
| Recall Mode                | None                                                                              | Min                                                                               |                                                                                   | None                                                                              | Min                                                                               |                                                                                   | Max                                                                               | Max                                                                                 | None                                                                                | Max                                                                                 | Max                                                                                 | None                                                                                |
| Act Effct Green (s)        | 38.2                                                                              | 25.3                                                                              |                                                                                   | 29.8                                                                              | 21.1                                                                              |                                                                                   |                                                                                   | 18.5                                                                                | 33.7                                                                                |                                                                                     | 18.5                                                                                | 37.9                                                                                |
| Actuated g/C Ratio         | 0.52                                                                              | 0.35                                                                              |                                                                                   | 0.41                                                                              | 0.29                                                                              |                                                                                   |                                                                                   | 0.25                                                                                | 0.46                                                                                |                                                                                     | 0.25                                                                                | 0.52                                                                                |
| v/c Ratio                  | 0.88                                                                              | 0.81                                                                              |                                                                                   | 0.64                                                                              | 0.90                                                                              |                                                                                   |                                                                                   | 0.79                                                                                | 0.42                                                                                |                                                                                     | 0.43                                                                                | 0.31                                                                                |
| Control Delay              | 40.2                                                                              | 33.4                                                                              |                                                                                   | 18.4                                                                              | 46.1                                                                              |                                                                                   |                                                                                   | 41.0                                                                                | 8.8                                                                                 |                                                                                     | 27.1                                                                                | 5.9                                                                                 |



# Lanes, Volumes, Timings

## 8: Thompson Road & South Bay Road

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Queue Delay             | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                                 | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |
| Total Delay             | 40.2                                                                              | 33.4                                                                              |                                                                                   | 18.4                                                                              | 46.1                                                                              |                                                                                   |                                                                                   | 41.0                                                                                | 8.8                                                                                 |                                                                                     | 27.1                                                                                | 5.9                                                                                 |
| LOS                     | D                                                                                 | C                                                                                 |                                                                                   | B                                                                                 | D                                                                                 |                                                                                   |                                                                                   | D                                                                                   | A                                                                                   |                                                                                     | C                                                                                   | A                                                                                   |
| Approach Delay          |                                                                                   | 36.2                                                                              |                                                                                   |                                                                                   | 37.2                                                                              |                                                                                   |                                                                                   | 25.4                                                                                |                                                                                     |                                                                                     | 14.4                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | C                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 109                                                                               | 214                                                                               |                                                                                   | 48                                                                                | 208                                                                               |                                                                                   |                                                                                   | 160                                                                                 | 50                                                                                  |                                                                                     | 75                                                                                  | 30                                                                                  |
| Queue Length 95th (ft)  | #226                                                                              | 300                                                                               |                                                                                   | 71                                                                                | #285                                                                              |                                                                                   |                                                                                   | #296                                                                                | 111                                                                                 |                                                                                     | 122                                                                                 | 62                                                                                  |
| Internal Link Dist (ft) |                                                                                   | 1244                                                                              |                                                                                   |                                                                                   | 1075                                                                              |                                                                                   |                                                                                   | 1015                                                                                |                                                                                     |                                                                                     | 953                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 300                                                                               |                                                                                   |                                                                                   | 250                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 210                                                                                 |                                                                                     |                                                                                     | 600                                                                                 |
| Base Capacity (vph)     | 430                                                                               | 695                                                                               |                                                                                   | 371                                                                               | 591                                                                               |                                                                                   |                                                                                   | 459                                                                                 | 823                                                                                 |                                                                                     | 445                                                                                 | 907                                                                                 |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |
| Reduced v/c Ratio       | 0.87                                                                              | 0.76                                                                              |                                                                                   | 0.62                                                                              | 0.82                                                                              |                                                                                   |                                                                                   | 0.79                                                                                | 0.42                                                                                |                                                                                     | 0.43                                                                                | 0.31                                                                                |

### Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 73.1

Natural Cycle: 75

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 30.0

Intersection LOS: C

Intersection Capacity Utilization 87.1%

ICU Level of Service E

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

### Splits and Phases: 8: Thompson Road & South Bay Road

|                                                                                        |                                                                                        |                                                                                        |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
|  Ø2 |  Ø3 |  Ø4 |
| 25 s                                                                                   | 16 s                                                                                   | 34 s                                                                                   |
|  Ø6 |  Ø7 |  Ø8 |
| 25 s                                                                                   | 20 s                                                                                   | 30 s                                                                                   |



# Lanes, Volumes, Timings

## 9: Lakeshore Road & Mudd Mill Road

07/05/2022

|                            |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | WBT                                                                               | WBR                                                                               | SBL                                                                               | SBR                                                                               |
| Lane Configurations        |                                                                                   |  |  |                                                                                   |  |                                                                                   |
| Traffic Volume (vph)       | 57                                                                                | 353                                                                               | 245                                                                               | 147                                                                               | 130                                                                               | 38                                                                                |
| Future Volume (vph)        | 57                                                                                | 353                                                                               | 245                                                                               | 147                                                                               | 130                                                                               | 38                                                                                |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Satd. Flow (prot)          | 0                                                                                 | 1850                                                                              | 1734                                                                              | 0                                                                                 | 1707                                                                              | 0                                                                                 |
| Flt Permitted              |                                                                                   | 0.993                                                                             |                                                                                   |                                                                                   | 0.963                                                                             |                                                                                   |
| Satd. Flow (perm)          | 0                                                                                 | 1850                                                                              | 1734                                                                              | 0                                                                                 | 1707                                                                              | 0                                                                                 |
| Link Speed (mph)           |                                                                                   | 35                                                                                | 35                                                                                |                                                                                   | 35                                                                                |                                                                                   |
| Link Distance (ft)         |                                                                                   | 753                                                                               | 701                                                                               |                                                                                   | 545                                                                               |                                                                                   |
| Travel Time (s)            |                                                                                   | 14.7                                                                              | 13.7                                                                              |                                                                                   | 10.6                                                                              |                                                                                   |
| Confl. Peds. (#/hr)        | 1                                                                                 |                                                                                   |                                                                                   | 1                                                                                 |                                                                                   |                                                                                   |
| Peak Hour Factor           | 0.83                                                                              | 0.83                                                                              | 0.85                                                                              | 0.85                                                                              | 0.82                                                                              | 0.82                                                                              |
| Heavy Vehicles (%)         | 2%                                                                                | 2%                                                                                | 4%                                                                                | 4%                                                                                | 4%                                                                                | 4%                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)      | 0                                                                                 | 494                                                                               | 461                                                                               | 0                                                                                 | 205                                                                               | 0                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment             | Left                                                                              | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Right                                                                             |
| Median Width(ft)           |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 12                                                                                |                                                                                   |
| Link Offset(ft)            |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 |                                                                                   |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                | 16                                                                                |                                                                                   | 16                                                                                |                                                                                   |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (mph)        | 15                                                                                |                                                                                   |                                                                                   | 9                                                                                 | 15                                                                                | 9                                                                                 |
| Sign Control               |                                                                                   | Free                                                                              | Free                                                                              |                                                                                   | Stop                                                                              |                                                                                   |

### Intersection Summary

Area Type: Other  
Control Type: Unsignalized  
Intersection Capacity Utilization 63.2%  
Analysis Period (min) 15

ICU Level of Service B



HCM 6th TWSC  
9: Lakeshore Road & Mudd Mill Road

07/05/2022

Intersection

Int Delay, s/veh 7

| Movement                 | EBL  | EBT                                                                               | WBT                                                                               | WBR  | SBL                                                                               | SBR  |
|--------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|------|
| Lane Configurations      |      |  |  |      |  |      |
| Traffic Vol, veh/h       | 57   | 353                                                                               | 245                                                                               | 147  | 130                                                                               | 38   |
| Future Vol, veh/h        | 57   | 353                                                                               | 245                                                                               | 147  | 130                                                                               | 38   |
| Conflicting Peds, #/hr   | 1    | 0                                                                                 | 0                                                                                 | 1    | 0                                                                                 | 0    |
| Sign Control             | Free | Free                                                                              | Free                                                                              | Free | Stop                                                                              | Stop |
| RT Channelized           | -    | None                                                                              | -                                                                                 | None | -                                                                                 | None |
| Storage Length           | -    | -                                                                                 | -                                                                                 | -    | 0                                                                                 | -    |
| Veh in Median Storage, # | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Grade, %                 | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Peak Hour Factor         | 83   | 83                                                                                | 85                                                                                | 85   | 82                                                                                | 82   |
| Heavy Vehicles, %        | 2    | 2                                                                                 | 4                                                                                 | 4    | 4                                                                                 | 4    |
| Mvmt Flow                | 69   | 425                                                                               | 288                                                                               | 173  | 159                                                                               | 46   |

| Major/Minor          | Major1 | Major2 | Minor2 |
|----------------------|--------|--------|--------|
| Conflicting Flow All | 462    | 0      | 0      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |
| Critical Hdwy        | 4.12   | -      | -      |
| Critical Hdwy Stg 1  | -      | -      | -      |
| Critical Hdwy Stg 2  | -      | -      | -      |
| Follow-up Hdwy       | 2.218  | -      | -      |
| Pot Cap-1 Maneuver   | 1099   | -      | -      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |
| Platoon blocked, %   | -      | -      | -      |
| Mov Cap-1 Maneuver   | 1098   | -      | -      |
| Mov Cap-2 Maneuver   | -      | -      | -      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |

| Approach             | EB  | WB | SB   |
|----------------------|-----|----|------|
| HCM Control Delay, s | 1.2 | 0  | 36.9 |
| HCM LOS              |     |    | E    |

| Minor Lane/Major Mvmt | EBL   | EBT | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-----|-------|
| Capacity (veh/h)      | 1098  | -   | -   | -   | 309   |
| HCM Lane V/C Ratio    | 0.063 | -   | -   | -   | 0.663 |
| HCM Control Delay (s) | 8.5   | 0   | -   | -   | 36.9  |
| HCM Lane LOS          | A     | A   | -   | -   | E     |
| HCM 95th %tile Q(veh) | 0.2   | -   | -   | -   | 4.4   |



# Lanes, Volumes, Timings

## 10: South Bay Road & Lakeshore Road

07/05/2022

|                            |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                 | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations        |  |                                                                                   |                                                                                   |  |  |                                                                                   |
| Traffic Volume (vph)       | 301                                                                               | 11                                                                                | 253                                                                               | 239                                                                               | 15                                                                                | 352                                                                               |
| Future Volume (vph)        | 301                                                                               | 11                                                                                | 253                                                                               | 239                                                                               | 15                                                                                | 352                                                                               |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Satd. Flow (prot)          | 1835                                                                              | 0                                                                                 | 0                                                                                 | 1816                                                                              | 1633                                                                              | 0                                                                                 |
| Flt Permitted              |                                                                                   |                                                                                   |                                                                                   | 0.975                                                                             | 0.998                                                                             |                                                                                   |
| Satd. Flow (perm)          | 1835                                                                              | 0                                                                                 | 0                                                                                 | 1816                                                                              | 1633                                                                              | 0                                                                                 |
| Link Speed (mph)           | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                | 45                                                                                |                                                                                   |
| Link Distance (ft)         | 538                                                                               |                                                                                   |                                                                                   | 300                                                                               | 501                                                                               |                                                                                   |
| Travel Time (s)            | 10.5                                                                              |                                                                                   |                                                                                   | 5.8                                                                               | 7.6                                                                               |                                                                                   |
| Peak Hour Factor           | 0.81                                                                              | 0.81                                                                              | 0.77                                                                              | 0.77                                                                              | 0.83                                                                              | 0.83                                                                              |
| Heavy Vehicles (%)         | 3%                                                                                | 3%                                                                                | 2%                                                                                | 2%                                                                                | 1%                                                                                | 1%                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)      | 386                                                                               | 0                                                                                 | 0                                                                                 | 639                                                                               | 442                                                                               | 0                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment             | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Left                                                                              | Right                                                                             |
| Median Width(ft)           | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 | 12                                                                                |                                                                                   |
| Link Offset(ft)            | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |
| Crosswalk Width(ft)        | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                | 16                                                                                |                                                                                   |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (mph)        |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 15                                                                                | 9                                                                                 |
| Sign Control               | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              | Stop                                                                              |                                                                                   |

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 75.7%

ICU Level of Service D

Analysis Period (min) 15



HCM 6th TWSC  
10: South Bay Road & Lakeshore Road

07/05/2022

Intersection

| Int Delay, s/veh         | 11.8                                                                              |      |      |                                                                                   |                                                                                   |      |
|--------------------------|-----------------------------------------------------------------------------------|------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|
| Movement                 | EBT                                                                               | EBR  | WBL  | WBT                                                                               | NBL                                                                               | NBR  |
| Lane Configurations      |  |      |      |  |  |      |
| Traffic Vol, veh/h       | 301                                                                               | 11   | 253  | 239                                                                               | 15                                                                                | 352  |
| Future Vol, veh/h        | 301                                                                               | 11   | 253  | 239                                                                               | 15                                                                                | 352  |
| Conflicting Peds, #/hr   | 0                                                                                 | 0    | 0    | 0                                                                                 | 0                                                                                 | 0    |
| Sign Control             | Free                                                                              | Free | Free | Free                                                                              | Stop                                                                              | Stop |
| RT Channelized           | -                                                                                 | None | -    | None                                                                              | -                                                                                 | None |
| Storage Length           | -                                                                                 | -    | -    | -                                                                                 | 0                                                                                 | -    |
| Veh in Median Storage, # | 0                                                                                 | -    | -    | 0                                                                                 | 0                                                                                 | -    |
| Grade, %                 | 0                                                                                 | -    | -    | 0                                                                                 | 0                                                                                 | -    |
| Peak Hour Factor         | 81                                                                                | 81   | 77   | 77                                                                                | 83                                                                                | 83   |
| Heavy Vehicles, %        | 3                                                                                 | 3    | 2    | 2                                                                                 | 1                                                                                 | 1    |
| Mvmt Flow                | 372                                                                               | 14   | 329  | 310                                                                               | 18                                                                                | 424  |

| Major/Minor          | Major1 | Major2 | Minor1 |
|----------------------|--------|--------|--------|
| Conflicting Flow All | 0      | 0      | 386    |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |
| Critical Hdwy        | -      | -      | 4.12   |
| Critical Hdwy Stg 1  | -      | -      | -      |
| Critical Hdwy Stg 2  | -      | -      | -      |
| Follow-up Hdwy       | -      | -      | 2.218  |
| Pot Cap-1 Maneuver   | -      | -      | 1172   |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |
| Platoon blocked, %   | -      | -      | -      |
| Mov Cap-1 Maneuver   | -      | -      | 1172   |
| Mov Cap-2 Maneuver   | -      | -      | -      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |

| Approach             | EB | WB  | NB   |
|----------------------|----|-----|------|
| HCM Control Delay, s | 0  | 4.8 | 32.2 |
| HCM LOS              |    |     | D    |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL  | WBT |
|-----------------------|-------|-----|-----|------|-----|
| Capacity (veh/h)      | 555   | -   | -   | 1172 | -   |
| HCM Lane V/C Ratio    | 0.797 | -   | -   | 0.28 | -   |
| HCM Control Delay (s) | 32.2  | -   | -   | 9.3  | 0   |
| HCM Lane LOS          | D     | -   | -   | A    | A   |
| HCM 95th %tile Q(veh) | 7.6   | -   | -   | 1.2  | -   |



# Lanes, Volumes, Timings

## 11: Cicero Center Road/Van Antwerp Drive & Lakeshore Road

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (vph)       | 2                                                                                 | 294                                                                               | 58                                                                                | 7                                                                                 | 218                                                                               | 0                                                                                 | 77                                                                                | 1                                                                                   | 18                                                                                  | 1                                                                                   | 0                                                                                   | 1                                                                                   |
| Future Volume (vph)        | 2                                                                                 | 294                                                                               | 58                                                                                | 7                                                                                 | 218                                                                               | 0                                                                                 | 77                                                                                | 1                                                                                   | 18                                                                                  | 1                                                                                   | 0                                                                                   | 1                                                                                   |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Satd. Flow (prot)          | 0                                                                                 | 1822                                                                              | 0                                                                                 | 0                                                                                 | 1859                                                                              | 0                                                                                 | 0                                                                                 | 1745                                                                                | 0                                                                                   | 0                                                                                   | 1694                                                                                | 0                                                                                   |
| Flt Permitted              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.998                                                                             |                                                                                   |                                                                                   | 0.962                                                                               |                                                                                     |                                                                                     | 0.976                                                                               |                                                                                     |
| Satd. Flow (perm)          | 0                                                                                 | 1822                                                                              | 0                                                                                 | 0                                                                                 | 1859                                                                              | 0                                                                                 | 0                                                                                 | 1745                                                                                | 0                                                                                   | 0                                                                                   | 1694                                                                                | 0                                                                                   |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 55                                                                                  |                                                                                     |                                                                                     | 30                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 557                                                                               |                                                                                   |                                                                                   | 543                                                                               |                                                                                   |                                                                                   | 388                                                                                 |                                                                                     |                                                                                     | 295                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 10.9                                                                              |                                                                                   |                                                                                   | 10.6                                                                              |                                                                                   |                                                                                   | 4.8                                                                                 |                                                                                     |                                                                                     | 6.7                                                                                 |                                                                                     |
| Confl. Peds. (#/hr)        |                                                                                   |                                                                                   | 1                                                                                 | 1                                                                                 |                                                                                   |                                                                                   | 4                                                                                 |                                                                                     | 1                                                                                   | 1                                                                                   |                                                                                     | 4                                                                                   |
| Peak Hour Factor           | 0.80                                                                              | 0.80                                                                              | 0.80                                                                              | 0.65                                                                              | 0.65                                                                              | 0.65                                                                              | 0.80                                                                              | 0.80                                                                                | 0.80                                                                                | 0.50                                                                                | 0.50                                                                                | 0.50                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 0                                                                                 | 444                                                                               | 0                                                                                 | 0                                                                                 | 346                                                                               | 0                                                                                 | 0                                                                                 | 120                                                                                 | 0                                                                                   | 0                                                                                   | 4                                                                                   | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Sign Control               |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Stop                                                                                |                                                                                     |                                                                                     | Stop                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 35.1%

ICU Level of Service A

Analysis Period (min) 15



Intersection

Int Delay, s/veh 2.9

| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations      |      | ↔    |      |      | ↔    |      |      | ↔    |      |      | ↔    |      |
| Traffic Vol, veh/h       | 2    | 294  | 58   | 7    | 218  | 0    | 77   | 1    | 18   | 1    | 0    | 1    |
| Future Vol, veh/h        | 2    | 294  | 58   | 7    | 218  | 0    | 77   | 1    | 18   | 1    | 0    | 1    |
| Conflicting Peds, #/hr   | 0    | 0    | 1    | 1    | 0    | 0    | 4    | 0    | 1    | 1    | 0    | 4    |
| Sign Control             | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -    | None |
| Storage Length           | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 80   | 80   | 80   | 65   | 65   | 65   | 80   | 80   | 80   | 50   | 50   | 50   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 3    | 368  | 73   | 11   | 335  | 0    | 96   | 1    | 23   | 2    | 0    | 2    |

| Major/Minor          | Major1 |   | Major2 |       | Minor1 |   | Minor2 |       |       |       |       |       |
|----------------------|--------|---|--------|-------|--------|---|--------|-------|-------|-------|-------|-------|
| Conflicting Flow All | 335    | 0 | 0      | 442   | 0      | 0 | 774    | 769   | 407   | 781   | 805   | 339   |
| Stage 1              | -      | - | -      | -     | -      | - | 412    | 412   | -     | 357   | 357   | -     |
| Stage 2              | -      | - | -      | -     | -      | - | 362    | 357   | -     | 424   | 448   | -     |
| Critical Hdwy        | 4.12   | - | -      | 4.12  | -      | - | 7.12   | 6.52  | 6.22  | 7.12  | 6.52  | 6.22  |
| Critical Hdwy Stg 1  | -      | - | -      | -     | -      | - | 6.12   | 5.52  | -     | 6.12  | 5.52  | -     |
| Critical Hdwy Stg 2  | -      | - | -      | -     | -      | - | 6.12   | 5.52  | -     | 6.12  | 5.52  | -     |
| Follow-up Hdwy       | 2.218  | - | -      | 2.218 | -      | - | 3.518  | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver   | 1224   | - | -      | 1118  | -      | - | 316    | 332   | 644   | 312   | 316   | 703   |
| Stage 1              | -      | - | -      | -     | -      | - | 617    | 594   | -     | 661   | 628   | -     |
| Stage 2              | -      | - | -      | -     | -      | - | 657    | 628   | -     | 608   | 573   | -     |
| Platoon blocked, %   | -      | - | -      | -     | -      | - | -      | -     | -     | -     | -     | -     |
| Mov Cap-1 Maneuver   | 1224   | - | -      | 1117  | -      | - | 310    | 327   | 643   | 296   | 311   | 700   |
| Mov Cap-2 Maneuver   | -      | - | -      | -     | -      | - | 310    | 327   | -     | 296   | 311   | -     |
| Stage 1              | -      | - | -      | -     | -      | - | 615    | 592   | -     | 659   | 620   | -     |
| Stage 2              | -      | - | -      | -     | -      | - | 645    | 620   | -     | 583   | 571   | -     |

| Approach             | EB |  | WB  |  | NB |  | SB   |
|----------------------|----|--|-----|--|----|--|------|
| HCM Control Delay, s | 0  |  | 0.3 |  | 21 |  | 13.7 |
| HCM LOS              |    |  |     |  | C  |  | B    |

| Minor Lane/Major Mvmt | NBLn1 | EBL   | EBT | EBR | WBL  | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-----|-----|------|-----|-----|-------|
| Capacity (veh/h)      | 344   | 1224  | -   | -   | 1117 | -   | -   | 416   |
| HCM Lane V/C Ratio    | 0.349 | 0.002 | -   | -   | 0.01 | -   | -   | 0.01  |
| HCM Control Delay (s) | 21    | 7.9   | 0   | -   | 8.3  | 0   | -   | 13.7  |
| HCM Lane LOS          | C     | A     | A   | -   | A    | A   | -   | B     |
| HCM 95th %tile Q(veh) | 1.5   | 0     | -   | -   | 0    | -   | -   | 0     |



# Lanes, Volumes, Timings

## 12: Lakeshore Road & West Site Access

07/05/2022

|                            |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | WBT                                                                               | WBR                                                                               | SBL                                                                               | SBR                                                                               |
| Lane Configurations        |                                                                                   |  |  |                                                                                   |  |                                                                                   |
| Traffic Volume (vph)       | 15                                                                                | 638                                                                               | 480                                                                               | 5                                                                                 | 4                                                                                 | 12                                                                                |
| Future Volume (vph)        | 15                                                                                | 638                                                                               | 480                                                                               | 5                                                                                 | 4                                                                                 | 12                                                                                |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Satd. Flow (prot)          | 0                                                                                 | 1844                                                                              | 1861                                                                              | 0                                                                                 | 1667                                                                              | 0                                                                                 |
| Flt Permitted              |                                                                                   | 0.999                                                                             |                                                                                   |                                                                                   | 0.988                                                                             |                                                                                   |
| Satd. Flow (perm)          | 0                                                                                 | 1844                                                                              | 1861                                                                              | 0                                                                                 | 1667                                                                              | 0                                                                                 |
| Link Speed (mph)           |                                                                                   | 35                                                                                | 35                                                                                |                                                                                   | 30                                                                                |                                                                                   |
| Link Distance (ft)         |                                                                                   | 300                                                                               | 359                                                                               |                                                                                   | 354                                                                               |                                                                                   |
| Travel Time (s)            |                                                                                   | 5.8                                                                               | 7.0                                                                               |                                                                                   | 8.0                                                                               |                                                                                   |
| Peak Hour Factor           | 0.81                                                                              | 0.81                                                                              | 0.77                                                                              | 0.77                                                                              | 0.90                                                                              | 0.90                                                                              |
| Heavy Vehicles (%)         | 1%                                                                                | 3%                                                                                | 2%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)      | 0                                                                                 | 807                                                                               | 629                                                                               | 0                                                                                 | 17                                                                                | 0                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment             | Left                                                                              | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Right                                                                             |
| Median Width(ft)           |                                                                                   | 12                                                                                | 12                                                                                |                                                                                   | 12                                                                                |                                                                                   |
| Link Offset(ft)            |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 |                                                                                   |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                | 16                                                                                |                                                                                   | 16                                                                                |                                                                                   |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (mph)        | 15                                                                                |                                                                                   |                                                                                   | 9                                                                                 | 15                                                                                | 9                                                                                 |
| Sign Control               |                                                                                   | Free                                                                              | Free                                                                              |                                                                                   | Stop                                                                              |                                                                                   |

### Intersection Summary

Area Type: Other  
Control Type: Unsignalized  
Intersection Capacity Utilization 55.6%  
Analysis Period (min) 15

ICU Level of Service B



HCM 6th TWSC  
12: Lakeshore Road & West Site Access

07/05/2022

Intersection

Int Delay, s/veh 0.3

| Movement                 | EBL  | EBT                                                                               | WBT                                                                               | WBR  | SBL                                                                               | SBR  |
|--------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|------|
| Lane Configurations      |      |  |  |      |  |      |
| Traffic Vol, veh/h       | 15   | 638                                                                               | 480                                                                               | 5    | 4                                                                                 | 12   |
| Future Vol, veh/h        | 15   | 638                                                                               | 480                                                                               | 5    | 4                                                                                 | 12   |
| Conflicting Peds, #/hr   | 0    | 0                                                                                 | 0                                                                                 | 0    | 0                                                                                 | 0    |
| Sign Control             | Free | Free                                                                              | Free                                                                              | Free | Stop                                                                              | Stop |
| RT Channelized           | -    | None                                                                              | -                                                                                 | None | -                                                                                 | None |
| Storage Length           | -    | -                                                                                 | -                                                                                 | -    | 0                                                                                 | -    |
| Veh in Median Storage, # | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Grade, %                 | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Peak Hour Factor         | 81   | 81                                                                                | 77                                                                                | 77   | 90                                                                                | 90   |
| Heavy Vehicles, %        | 1    | 3                                                                                 | 2                                                                                 | 1    | 1                                                                                 | 1    |
| Mvmt Flow                | 19   | 788                                                                               | 623                                                                               | 6    | 4                                                                                 | 13   |

| Major/Minor          | Major1 | Major2 | Minor2        |
|----------------------|--------|--------|---------------|
| Conflicting Flow All | 629    | 0      | 0 1452 626    |
| Stage 1              | -      | -      | - 626 -       |
| Stage 2              | -      | -      | - 826 -       |
| Critical Hdwy        | 4.11   | -      | - 6.41 6.21   |
| Critical Hdwy Stg 1  | -      | -      | - 5.41 -      |
| Critical Hdwy Stg 2  | -      | -      | - 5.41 -      |
| Follow-up Hdwy       | 2.209  | -      | - 3.509 3.309 |
| Pot Cap-1 Maneuver   | 958    | -      | - 145 486     |
| Stage 1              | -      | -      | - 535 -       |
| Stage 2              | -      | -      | - 432 -       |
| Platoon blocked, %   | -      | -      | -             |
| Mov Cap-1 Maneuver   | 958    | -      | - 140 486     |
| Mov Cap-2 Maneuver   | -      | -      | - 140 -       |
| Stage 1              | -      | -      | - 516 -       |
| Stage 2              | -      | -      | - 432 -       |

| Approach             | EB  | WB | SB   |
|----------------------|-----|----|------|
| HCM Control Delay, s | 0.2 | 0  | 17.8 |
| HCM LOS              |     |    | C    |

| Minor Lane/Major Mvmt | EBL   | EBT | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-----|-------|
| Capacity (veh/h)      | 958   | -   | -   | -   | 300   |
| HCM Lane V/C Ratio    | 0.019 | -   | -   | -   | 0.059 |
| HCM Control Delay (s) | 8.8   | 0   | -   | -   | 17.8  |
| HCM Lane LOS          | A     | A   | -   | -   | C     |
| HCM 95th %tile Q(veh) | 0.1   | -   | -   | -   | 0.2   |



# Lanes, Volumes, Timings

## 13: Middle Site Access & Lakeshore Road

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |  |  |                                                                                   |  |  |                                                                                   |                                                                                   |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (vph)       | 59                                                                                | 559                                                                               | 24                                                                                | 2                                                                                 | 423                                                                               | 12                                                                                | 15                                                                                | 0                                                                                   | 2                                                                                   | 11                                                                                  | 0                                                                                   | 47                                                                                  |
| Future Volume (vph)        | 59                                                                                | 559                                                                               | 24                                                                                | 2                                                                                 | 423                                                                               | 12                                                                                | 15                                                                                | 0                                                                                   | 2                                                                                   | 11                                                                                  | 0                                                                                   | 47                                                                                  |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 100                                                                               |                                                                                   | 0                                                                                 | 100                                                                               |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   |
| Storage Lanes              | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 1787                                                                              | 1835                                                                              | 0                                                                                 | 1787                                                                              | 1856                                                                              | 0                                                                                 | 0                                                                                 | 1775                                                                                | 0                                                                                   | 0                                                                                   | 1659                                                                                | 0                                                                                   |
| Flt Permitted              | 0.950                                                                             |                                                                                   |                                                                                   | 0.950                                                                             |                                                                                   |                                                                                   |                                                                                   | 0.957                                                                               |                                                                                     |                                                                                     | 0.991                                                                               |                                                                                     |
| Satd. Flow (perm)          | 1787                                                                              | 1835                                                                              | 0                                                                                 | 1787                                                                              | 1856                                                                              | 0                                                                                 | 0                                                                                 | 1775                                                                                | 0                                                                                   | 0                                                                                   | 1659                                                                                | 0                                                                                   |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 30                                                                                  |                                                                                     |                                                                                     | 30                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 359                                                                               |                                                                                   |                                                                                   | 475                                                                               |                                                                                   |                                                                                   | 333                                                                                 |                                                                                     |                                                                                     | 341                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 7.0                                                                               |                                                                                   |                                                                                   | 9.3                                                                               |                                                                                   |                                                                                   | 7.6                                                                                 |                                                                                     |                                                                                     | 7.8                                                                                 |                                                                                     |
| Peak Hour Factor           | 0.81                                                                              | 0.81                                                                              | 0.81                                                                              | 0.77                                                                              | 0.77                                                                              | 0.77                                                                              | 0.90                                                                              | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                |
| Heavy Vehicles (%)         | 1%                                                                                | 3%                                                                                | 1%                                                                                | 1%                                                                                | 2%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 73                                                                                | 720                                                                               | 0                                                                                 | 3                                                                                 | 565                                                                               | 0                                                                                 | 0                                                                                 | 19                                                                                  | 0                                                                                   | 0                                                                                   | 64                                                                                  | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Sign Control               |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Stop                                                                                |                                                                                     |                                                                                     | Stop                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 47.6%

ICU Level of Service A

Analysis Period (min) 15



HCM 6th TWSC  
13: Middle Site Access & Lakeshore Road

07/05/2022

Intersection

| Int Delay, s/veh         | 1.9                                                                               |                                                                                   |      |                                                                                   |                                                                                   |      |      |                                                                                   |      |      |                                                                                     |      |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|------|-----------------------------------------------------------------------------------|------|------|-------------------------------------------------------------------------------------|------|
| Movement                 | EBL                                                                               | EBT                                                                               | EBR  | WBL                                                                               | WBT                                                                               | WBR  | NBL  | NBT                                                                               | NBR  | SBL  | SBT                                                                                 | SBR  |
| Lane Configurations      |  |  |      |  |  |      |      |  |      |      |  |      |
| Traffic Vol, veh/h       | 59                                                                                | 559                                                                               | 24   | 2                                                                                 | 423                                                                               | 12   | 15   | 0                                                                                 | 2    | 11   | 0                                                                                   | 47   |
| Future Vol, veh/h        | 59                                                                                | 559                                                                               | 24   | 2                                                                                 | 423                                                                               | 12   | 15   | 0                                                                                 | 2    | 11   | 0                                                                                   | 47   |
| Conflicting Peds, #/hr   | 0                                                                                 | 0                                                                                 | 0    | 0                                                                                 | 0                                                                                 | 0    | 0    | 0                                                                                 | 0    | 0    | 0                                                                                   | 0    |
| Sign Control             | Free                                                                              | Free                                                                              | Free | Free                                                                              | Free                                                                              | Free | Stop | Stop                                                                              | Stop | Stop | Stop                                                                                | Stop |
| RT Channelized           | -                                                                                 | -                                                                                 | None | -                                                                                 | -                                                                                 | None | -    | -                                                                                 | None | -    | -                                                                                   | None |
| Storage Length           | 100                                                                               | -                                                                                 | -    | 100                                                                               | -                                                                                 | -    | -    | -                                                                                 | -    | -    | -                                                                                   | -    |
| Veh in Median Storage, # | -                                                                                 | 0                                                                                 | -    | -                                                                                 | 0                                                                                 | -    | -    | 0                                                                                 | -    | -    | 0                                                                                   | -    |
| Grade, %                 | -                                                                                 | 0                                                                                 | -    | -                                                                                 | 0                                                                                 | -    | -    | 0                                                                                 | -    | -    | 0                                                                                   | -    |
| Peak Hour Factor         | 81                                                                                | 81                                                                                | 81   | 77                                                                                | 77                                                                                | 77   | 90   | 90                                                                                | 90   | 90   | 90                                                                                  | 90   |
| Heavy Vehicles, %        | 1                                                                                 | 3                                                                                 | 1    | 1                                                                                 | 2                                                                                 | 1    | 1    | 1                                                                                 | 1    | 1    | 1                                                                                   | 1    |
| Mvmt Flow                | 73                                                                                | 690                                                                               | 30   | 3                                                                                 | 549                                                                               | 16   | 17   | 0                                                                                 | 2    | 12   | 0                                                                                   | 52   |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |       |       | Minor2 |       |       |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Conflicting Flow All | 565    | 0 | 0 | 720    | 0 | 0 | 1440   | 1422  | 705   | 1415   | 1429  | 557   |
| Stage 1              | -      | - | - | -      | - | - | 851    | 851   | -     | 563    | 563   | -     |
| Stage 2              | -      | - | - | -      | - | - | 589    | 571   | -     | 852    | 866   | -     |
| Critical Hdwy        | 4.11   | - | - | 4.11   | - | - | 7.11   | 6.51  | 6.21  | 7.11   | 6.51  | 6.21  |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | 6.11   | 5.51  | -     | 6.11   | 5.51  | -     |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | 6.11   | 5.51  | -     | 6.11   | 5.51  | -     |
| Follow-up Hdwy       | 2.209  | - | - | 2.209  | - | - | 3.509  | 4.009 | 3.309 | 3.509  | 4.009 | 3.309 |
| Pot Cap-1 Maneuver   | 1012   | - | - | 886    | - | - | 111    | 137   | 438   | 116    | 135   | 532   |
| Stage 1              | -      | - | - | -      | - | - | 356    | 378   | -     | 513    | 511   | -     |
| Stage 2              | -      | - | - | -      | - | - | 496    | 506   | -     | 356    | 372   | -     |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | -     | -     | -      | -     | -     |
| Mov Cap-1 Maneuver   | 1012   | - | - | 886    | - | - | 94     | 127   | 438   | 109    | 125   | 532   |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | 94     | 127   | -     | 109    | 125   | -     |
| Stage 1              | -      | - | - | -      | - | - | 330    | 351   | -     | 476    | 509   | -     |
| Stage 2              | -      | - | - | -      | - | - | 446    | 504   | -     | 329    | 345   | -     |

| Approach             | EB  | WB | NB   | SB   |
|----------------------|-----|----|------|------|
| HCM Control Delay, s | 0.8 | 0  | 47.1 | 19.9 |
| HCM LOS              |     |    | E    | C    |

| Minor Lane/Major Mvmt | NBLn1 | EBL   | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 104   | 1012  | -   | -   | 886   | -   | -   | 306   |
| HCM Lane V/C Ratio    | 0.182 | 0.072 | -   | -   | 0.003 | -   | -   | 0.211 |
| HCM Control Delay (s) | 47.1  | 8.8   | -   | -   | 9.1   | -   | -   | 19.9  |
| HCM Lane LOS          | E     | A     | -   | -   | A     | -   | -   | C     |
| HCM 95th %tile Q(veh) | 0.6   | 0.2   | -   | -   | 0     | -   | -   | 0.8   |



# Lanes, Volumes, Timings

## 14: East Site Access & Lakeshore Road

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |  |  |                                                                                   |  |  |                                                                                   |                                                                                   |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (vph)       | 161                                                                               | 318                                                                               | 93                                                                                | 12                                                                                | 252                                                                               | 32                                                                                | 57                                                                                | 0                                                                                   | 7                                                                                   | 29                                                                                  | 0                                                                                   | 128                                                                                 |
| Future Volume (vph)        | 161                                                                               | 318                                                                               | 93                                                                                | 12                                                                                | 252                                                                               | 32                                                                                | 57                                                                                | 0                                                                                   | 7                                                                                   | 29                                                                                  | 0                                                                                   | 128                                                                                 |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 100                                                                               |                                                                                   | 0                                                                                 | 100                                                                               |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   |
| Storage Lanes              | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 1787                                                                              | 1790                                                                              | 0                                                                                 | 1787                                                                              | 1833                                                                              | 0                                                                                 | 0                                                                                 | 1775                                                                                | 0                                                                                   | 0                                                                                   | 1659                                                                                | 0                                                                                   |
| Flt Permitted              | 0.950                                                                             |                                                                                   |                                                                                   | 0.950                                                                             |                                                                                   |                                                                                   |                                                                                   | 0.958                                                                               |                                                                                     |                                                                                     | 0.991                                                                               |                                                                                     |
| Satd. Flow (perm)          | 1787                                                                              | 1790                                                                              | 0                                                                                 | 1787                                                                              | 1833                                                                              | 0                                                                                 | 0                                                                                 | 1775                                                                                | 0                                                                                   | 0                                                                                   | 1659                                                                                | 0                                                                                   |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 30                                                                                  |                                                                                     |                                                                                     | 30                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 475                                                                               |                                                                                   |                                                                                   | 621                                                                               |                                                                                   |                                                                                   | 334                                                                                 |                                                                                     |                                                                                     | 326                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 9.3                                                                               |                                                                                   |                                                                                   | 12.1                                                                              |                                                                                   |                                                                                   | 7.6                                                                                 |                                                                                     |                                                                                     | 7.4                                                                                 |                                                                                     |
| Peak Hour Factor           | 0.81                                                                              | 0.81                                                                              | 0.81                                                                              | 0.77                                                                              | 0.77                                                                              | 0.77                                                                              | 0.90                                                                              | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                |
| Heavy Vehicles (%)         | 1%                                                                                | 3%                                                                                | 1%                                                                                | 1%                                                                                | 2%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 199                                                                               | 508                                                                               | 0                                                                                 | 16                                                                                | 369                                                                               | 0                                                                                 | 0                                                                                 | 71                                                                                  | 0                                                                                   | 0                                                                                   | 174                                                                                 | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Sign Control               |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Stop                                                                                |                                                                                     |                                                                                     | Stop                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 48.7%

ICU Level of Service A

Analysis Period (min) 15



HCM 6th TWSC  
14: East Site Access & Lakeshore Road

07/05/2022

Intersection

|                          |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |      |      |                                                                                   |      |      |                                                                                     |      |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|------|-----------------------------------------------------------------------------------|------|------|-------------------------------------------------------------------------------------|------|
| Int Delay, s/veh         | 9.1                                                                               |                                                                                   |      |                                                                                   |                                                                                   |      |      |                                                                                   |      |      |                                                                                     |      |
| Movement                 | EBL                                                                               | EBT                                                                               | EBR  | WBL                                                                               | WBT                                                                               | WBR  | NBL  | NBT                                                                               | NBR  | SBL  | SBT                                                                                 | SBR  |
| Lane Configurations      |  |  |      |  |  |      |      |  |      |      |  |      |
| Traffic Vol, veh/h       | 161                                                                               | 318                                                                               | 93   | 12                                                                                | 252                                                                               | 32   | 57   | 0                                                                                 | 7    | 29   | 0                                                                                   | 128  |
| Future Vol, veh/h        | 161                                                                               | 318                                                                               | 93   | 12                                                                                | 252                                                                               | 32   | 57   | 0                                                                                 | 7    | 29   | 0                                                                                   | 128  |
| Conflicting Peds, #/hr   | 0                                                                                 | 0                                                                                 | 0    | 0                                                                                 | 0                                                                                 | 0    | 0    | 0                                                                                 | 0    | 0    | 0                                                                                   | 0    |
| Sign Control             | Free                                                                              | Free                                                                              | Free | Free                                                                              | Free                                                                              | Free | Stop | Stop                                                                              | Stop | Stop | Stop                                                                                | Stop |
| RT Channelized           | -                                                                                 | -                                                                                 | None | -                                                                                 | -                                                                                 | None | -    | -                                                                                 | None | -    | -                                                                                   | None |
| Storage Length           | 100                                                                               | -                                                                                 | -    | 100                                                                               | -                                                                                 | -    | -    | -                                                                                 | -    | -    | -                                                                                   | -    |
| Veh in Median Storage, # | -                                                                                 | 0                                                                                 | -    | -                                                                                 | 0                                                                                 | -    | -    | 0                                                                                 | -    | -    | 0                                                                                   | -    |
| Grade, %                 | -                                                                                 | 0                                                                                 | -    | -                                                                                 | 0                                                                                 | -    | -    | 0                                                                                 | -    | -    | 0                                                                                   | -    |
| Peak Hour Factor         | 81                                                                                | 81                                                                                | 81   | 77                                                                                | 77                                                                                | 77   | 90   | 90                                                                                | 90   | 90   | 90                                                                                  | 90   |
| Heavy Vehicles, %        | 1                                                                                 | 3                                                                                 | 1    | 1                                                                                 | 2                                                                                 | 1    | 1    | 1                                                                                 | 1    | 1    | 1                                                                                   | 1    |
| Mvmt Flow                | 199                                                                               | 393                                                                               | 115  | 16                                                                                | 327                                                                               | 42   | 63   | 0                                                                                 | 8    | 32   | 0                                                                                   | 142  |

|                      |        |   |   |        |   |   |        |       |       |        |       |       |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |       |       | Minor2 |       |       |
| Conflicting Flow All | 369    | 0 | 0 | 508    | 0 | 0 | 1300   | 1250  | 451   | 1233   | 1286  | 348   |
| Stage 1              | -      | - | - | -      | - | - | 849    | 849   | -     | 380    | 380   | -     |
| Stage 2              | -      | - | - | -      | - | - | 451    | 401   | -     | 853    | 906   | -     |
| Critical Hdwy        | 4.11   | - | - | 4.11   | - | - | 7.11   | 6.51  | 6.21  | 7.11   | 6.51  | 6.21  |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | 6.11   | 5.51  | -     | 6.11   | 5.51  | -     |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | 6.11   | 5.51  | -     | 6.11   | 5.51  | -     |
| Follow-up Hdwy       | 2.209  | - | - | 2.209  | - | - | 3.509  | 4.009 | 3.309 | 3.509  | 4.009 | 3.309 |
| Pot Cap-1 Maneuver   | 1195   | - | - | 1062   | - | - | 139    | 174   | 610   | 154    | 165   | 697   |
| Stage 1              | -      | - | - | -      | - | - | 357    | 379   | -     | 644    | 616   | -     |
| Stage 2              | -      | - | - | -      | - | - | 590    | 603   | -     | 355    | 356   | -     |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | -     | -     | -      | -     | -     |
| Mov Cap-1 Maneuver   | 1195   | - | - | 1062   | - | - | 95     | 143   | 610   | 131    | 135   | 697   |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | 95     | 143   | -     | 131    | 135   | -     |
| Stage 1              | -      | - | - | -      | - | - | 297    | 316   | -     | 536    | 607   | -     |
| Stage 2              | -      | - | - | -      | - | - | 463    | 594   | -     | 292    | 297   | -     |

|                      |     |     |      |      |
|----------------------|-----|-----|------|------|
| Approach             | EB  | WB  | NB   | SB   |
| HCM Control Delay, s | 2.4 | 0.3 | 92.1 | 21.6 |
| HCM LOS              |     |     | F    | C    |

|                       |       |       |     |     |       |     |     |       |
|-----------------------|-------|-------|-----|-----|-------|-----|-----|-------|
| Minor Lane/Major Mvmt | NBLn1 | EBL   | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
| Capacity (veh/h)      | 105   | 1195  | -   | -   | 1062  | -   | -   | 388   |
| HCM Lane V/C Ratio    | 0.677 | 0.166 | -   | -   | 0.015 | -   | -   | 0.45  |
| HCM Control Delay (s) | 92.1  | 8.6   | -   | -   | 8.4   | -   | -   | 21.6  |
| HCM Lane LOS          | F     | A     | -   | -   | A     | -   | -   | C     |
| HCM 95th %tile Q(veh) | 3.5   | 0.6   | -   | -   | 0     | -   | -   | 2.3   |



# Lanes, Volumes, Timings

## 1: Route 11 & Route 31

07/05/2022

|                            |  |  |  |  |  |  |   |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |  |  |                                                                                   |  |  |                                                                                   |  |  |  |  |  |  |
| Traffic Volume (vph)       | 71                                                                                | 569                                                                               | 127                                                                               | 560                                                                               | 575                                                                               | 141                                                                               | 133                                                                                | 319                                                                                 | 653                                                                                 | 177                                                                                 | 281                                                                                 | 74                                                                                  |
| Future Volume (vph)        | 71                                                                                | 569                                                                               | 127                                                                               | 560                                                                               | 575                                                                               | 141                                                                               | 133                                                                                | 319                                                                                 | 653                                                                                 | 177                                                                                 | 281                                                                                 | 74                                                                                  |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                               | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 200                                                                               |                                                                                   | 310                                                                               | 495                                                                               |                                                                                   | 0                                                                                 | 175                                                                                |                                                                                     | 0                                                                                   | 350                                                                                 |                                                                                     | 0                                                                                   |
| Storage Lanes              | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                  |                                                                                     | 1                                                                                   | 1                                                                                   |                                                                                     | 0                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                 |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 1787                                                                              | 3478                                                                              | 0                                                                                 | 1787                                                                              | 3467                                                                              | 0                                                                                 | 1787                                                                               | 1881                                                                                | 1599                                                                                | 1787                                                                                | 3463                                                                                | 0                                                                                   |
| Flt Permitted              | 0.354                                                                             |                                                                                   |                                                                                   | 0.127                                                                             |                                                                                   |                                                                                   | 0.375                                                                              |                                                                                     |                                                                                     | 0.190                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)          | 666                                                                               | 3478                                                                              | 0                                                                                 | 239                                                                               | 3467                                                                              | 0                                                                                 | 705                                                                                | 1881                                                                                | 1599                                                                                | 357                                                                                 | 3463                                                                                | 0                                                                                   |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                    |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   | 23                                                                                |                                                                                   |                                                                                   | 36                                                                                |                                                                                   |                                                                                    |                                                                                     | 89                                                                                  |                                                                                     | 27                                                                                  |                                                                                     |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                    | 35                                                                                  |                                                                                     |                                                                                     | 35                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 385                                                                               |                                                                                   |                                                                                   | 703                                                                               |                                                                                   |                                                                                    | 612                                                                                 |                                                                                     |                                                                                     | 561                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 7.5                                                                               |                                                                                   |                                                                                   | 13.7                                                                              |                                                                                   |                                                                                    | 11.9                                                                                |                                                                                     |                                                                                     | 10.9                                                                                |                                                                                     |
| Peak Hour Factor           | 0.86                                                                              | 0.86                                                                              | 0.86                                                                              | 0.91                                                                              | 0.91                                                                              | 0.91                                                                              | 0.95                                                                               | 0.95                                                                                | 0.95                                                                                | 0.88                                                                                | 0.88                                                                                | 0.88                                                                                |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                 | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 83                                                                                | 810                                                                               | 0                                                                                 | 615                                                                               | 787                                                                               | 0                                                                                 | 140                                                                                | 336                                                                                 | 687                                                                                 | 201                                                                                 | 403                                                                                 | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                 | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                               | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                    | 12                                                                                  |                                                                                     |                                                                                     | 12                                                                                  |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                    | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                    | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                 |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                              | NA                                                                                  | pm+ov                                                                               | pm+pt                                                                               | NA                                                                                  |                                                                                     |
| Protected Phases           | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 3                                                                                  | 8                                                                                   | 1                                                                                   | 7                                                                                   | 4                                                                                   |                                                                                     |
| Permitted Phases           | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                  |                                                                                     | 8                                                                                   | 4                                                                                   |                                                                                     |                                                                                     |
| Detector Phase             | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 3                                                                                  | 8                                                                                   | 1                                                                                   | 7                                                                                   | 4                                                                                   |                                                                                     |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 4.0                                                                               | 12.0                                                                              |                                                                                   | 8.0                                                                               | 12.0                                                                              |                                                                                   | 4.0                                                                                | 8.0                                                                                 | 8.0                                                                                 | 4.0                                                                                 | 8.0                                                                                 |                                                                                     |
| Minimum Split (s)          | 9.5                                                                               | 18.0                                                                              |                                                                                   | 13.5                                                                              | 18.0                                                                              |                                                                                   | 10.0                                                                               | 14.0                                                                                | 13.5                                                                                | 9.5                                                                                 | 14.0                                                                                |                                                                                     |
| Total Split (s)            | 12.0                                                                              | 32.0                                                                              |                                                                                   | 36.0                                                                              | 56.0                                                                              |                                                                                   | 15.0                                                                               | 27.0                                                                                | 36.0                                                                                | 15.0                                                                                | 27.0                                                                                |                                                                                     |
| Total Split (%)            | 10.9%                                                                             | 29.1%                                                                             |                                                                                   | 32.7%                                                                             | 50.9%                                                                             |                                                                                   | 13.6%                                                                              | 24.5%                                                                               | 32.7%                                                                               | 13.6%                                                                               | 24.5%                                                                               |                                                                                     |
| Maximum Green (s)          | 6.5                                                                               | 26.0                                                                              |                                                                                   | 30.5                                                                              | 50.0                                                                              |                                                                                   | 9.0                                                                                | 21.0                                                                                | 30.5                                                                                | 9.5                                                                                 | 21.0                                                                                |                                                                                     |
| Yellow Time (s)            | 3.5                                                                               | 3.5                                                                               |                                                                                   | 3.5                                                                               | 3.5                                                                               |                                                                                   | 3.5                                                                                | 3.5                                                                                 | 3.5                                                                                 | 3.0                                                                                 | 3.5                                                                                 |                                                                                     |
| All-Red Time (s)           | 2.0                                                                               | 2.5                                                                               |                                                                                   | 2.0                                                                               | 2.5                                                                               |                                                                                   | 2.5                                                                                | 2.5                                                                                 | 2.0                                                                                 | 2.5                                                                                 | 2.5                                                                                 |                                                                                     |
| Lost Time Adjust (s)       | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                                | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)        | 5.5                                                                               | 6.0                                                                               |                                                                                   | 5.5                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                                | 6.0                                                                                 | 5.5                                                                                 | 5.5                                                                                 | 6.0                                                                                 |                                                                                     |
| Lead/Lag                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                               | Lag                                                                                 | Lead                                                                                | Lead                                                                                | Lag                                                                                 |                                                                                     |
| Lead-Lag Optimize?         | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                                | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 |                                                                                     |
| Vehicle Extension (s)      | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                                | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |
| Recall Mode                | None                                                                              | C-Min                                                                             |                                                                                   | None                                                                              | C-Min                                                                             |                                                                                   | None                                                                               | None                                                                                | None                                                                                | None                                                                                | None                                                                                |                                                                                     |
| Act Effect Green (s)       | 32.9                                                                              | 26.0                                                                              |                                                                                   | 62.6                                                                              | 52.5                                                                              |                                                                                   | 29.7                                                                               | 20.9                                                                                | 57.5                                                                                | 31.1                                                                                | 21.1                                                                                |                                                                                     |
| Actuated g/C Ratio         | 0.30                                                                              | 0.24                                                                              |                                                                                   | 0.57                                                                              | 0.48                                                                              |                                                                                   | 0.27                                                                               | 0.19                                                                                | 0.52                                                                                | 0.28                                                                                | 0.19                                                                                |                                                                                     |
| v/c Ratio                  | 0.31                                                                              | 0.97                                                                              |                                                                                   | 1.08                                                                              | 0.47                                                                              |                                                                                   | 0.51                                                                               | 0.94                                                                                | 0.78                                                                                | 0.90                                                                                | 0.59                                                                                |                                                                                     |
| Control Delay              | 18.7                                                                              | 64.7                                                                              |                                                                                   | 91.9                                                                              | 20.0                                                                              |                                                                                   | 34.6                                                                               | 79.6                                                                                | 25.9                                                                                | 69.8                                                                                | 41.7                                                                                |                                                                                     |



# Lanes, Volumes, Timings

## 1: Route 11 & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Queue Delay             | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Delay             | 18.7                                                                              | 64.7                                                                              |                                                                                   | 91.9                                                                              | 20.0                                                                              |                                                                                   | 34.6                                                                              | 79.6                                                                                | 25.9                                                                                | 69.8                                                                                | 41.7                                                                                |                                                                                     |
| LOS                     | B                                                                                 | E                                                                                 |                                                                                   | F                                                                                 | B                                                                                 |                                                                                   | C                                                                                 | E                                                                                   | C                                                                                   | E                                                                                   | D                                                                                   |                                                                                     |
| Approach Delay          |                                                                                   | 60.4                                                                              |                                                                                   |                                                                                   | 51.5                                                                              |                                                                                   |                                                                                   | 42.5                                                                                |                                                                                     |                                                                                     | 51.0                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | E                                                                                 |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | D                                                                                   |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 25                                                                                | 291                                                                               |                                                                                   | ~436                                                                              | 212                                                                               |                                                                                   | 72                                                                                | 236                                                                                 | 332                                                                                 | 106                                                                                 | 128                                                                                 |                                                                                     |
| Queue Length 95th (ft)  | 45                                                                                | #387                                                                              |                                                                                   | #666                                                                              | 241                                                                               |                                                                                   | 122                                                                               | #410                                                                                | 505                                                                                 | #214                                                                                | 175                                                                                 |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 305                                                                               |                                                                                   |                                                                                   | 623                                                                               |                                                                                   |                                                                                   | 532                                                                                 |                                                                                     |                                                                                     | 481                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 200                                                                               |                                                                                   |                                                                                   | 495                                                                               |                                                                                   |                                                                                   | 175                                                                               |                                                                                     |                                                                                     | 350                                                                                 |                                                                                     |                                                                                     |
| Base Capacity (vph)     | 266                                                                               | 839                                                                               |                                                                                   | 567                                                                               | 1673                                                                              |                                                                                   | 279                                                                               | 359                                                                                 | 878                                                                                 | 224                                                                                 | 686                                                                                 |                                                                                     |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       | 0.31                                                                              | 0.97                                                                              |                                                                                   | 1.08                                                                              | 0.47                                                                              |                                                                                   | 0.50                                                                              | 0.94                                                                                | 0.78                                                                                | 0.90                                                                                | 0.59                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 93 (85%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.08

Intersection Signal Delay: 50.8

Intersection LOS: D

Intersection Capacity Utilization 96.6%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

### Splits and Phases: 1: Route 11 & Route 31

|                                                                                        |                                                                                            |                                                                                        |                                                                                          |
|----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
|  Ø1 |  Ø2 (R) |  Ø3 |  Ø4 |
| 36 s                                                                                   | 32 s                                                                                       | 15 s                                                                                   | 27 s                                                                                     |
|  Ø5 |  Ø6 (R) |  Ø7 |  Ø8 |
| 12 s                                                                                   | 56 s                                                                                       | 15 s                                                                                   | 27 s                                                                                     |



# Lanes, Volumes, Timings

## 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |                                                                                   |  |                                                                                   |  |  |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |  |  |
| Traffic Volume (vph)       | 0                                                                                 | 1132                                                                              | 267                                                                               | 426                                                                               | 1089                                                                              | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 165                                                                                 | 0                                                                                   | 187                                                                                 |
| Future Volume (vph)        | 0                                                                                 | 1132                                                                              | 267                                                                               | 426                                                                               | 1089                                                                              | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 165                                                                                 | 0                                                                                   | 187                                                                                 |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 0                                                                                 |                                                                                   | 0                                                                                 | 150                                                                               |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     | 125                                                                                 |
| Storage Lanes              | 0                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     | 1                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 0                                                                                 | 3437                                                                              | 0                                                                                 | 1770                                                                              | 3539                                                                              | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 1752                                                                                | 1568                                                                                |
| Flt Permitted              |                                                                                   |                                                                                   |                                                                                   | 0.068                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 0.950                                                                               |                                                                                     |
| Satd. Flow (perm)          | 0                                                                                 | 3437                                                                              | 0                                                                                 | 127                                                                               | 3539                                                                              | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 1752                                                                                | 1568                                                                                |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   | 32                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 144                                                                                 |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 40                                                                                  |                                                                                     |                                                                                     | 40                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 703                                                                               |                                                                                   |                                                                                   | 360                                                                               |                                                                                   |                                                                                   | 622                                                                                 |                                                                                     |                                                                                     | 505                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 13.7                                                                              |                                                                                   |                                                                                   | 7.0                                                                               |                                                                                   |                                                                                   | 10.6                                                                                |                                                                                     |                                                                                     | 8.6                                                                                 |                                                                                     |
| Confl. Peds. (#/hr)        | 1                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1                                                                                 |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Peak Hour Factor           | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.90                                                                              | 0.90                                                                                | 0.90                                                                                | 0.79                                                                                | 0.79                                                                                | 0.79                                                                                |
| Heavy Vehicles (%)         | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                  | 2%                                                                                  | 3%                                                                                  | 3%                                                                                  | 3%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 0                                                                                 | 1504                                                                              | 0                                                                                 | 458                                                                               | 1171                                                                              | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 209                                                                                 | 237                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  |                                                                                   | NA                                                                                |                                                                                   | pm+pt                                                                             | NA                                                                                |                                                                                   |                                                                                   |                                                                                     |                                                                                     | Perm                                                                                | NA                                                                                  | Perm                                                                                |
| Protected Phases           |                                                                                   | 2                                                                                 |                                                                                   | 1 3                                                                               | 6                                                                                 |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |
| Permitted Phases           |                                                                                   |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     | 4                                                                                   |
| Detector Phase             |                                                                                   | 2                                                                                 |                                                                                   | 1 3                                                                               | 6                                                                                 |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 4                                                                                   | 4                                                                                   | 4                                                                                   |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        |                                                                                   | 12.0                                                                              |                                                                                   |                                                                                   | 12.0                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 |
| Minimum Split (s)          |                                                                                   | 17.0                                                                              |                                                                                   |                                                                                   | 17.0                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 9.0                                                                                 | 9.0                                                                                 | 9.0                                                                                 |
| Total Split (s)            |                                                                                   | 52.0                                                                              |                                                                                   |                                                                                   | 89.0                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 21.0                                                                                | 21.0                                                                                | 21.0                                                                                |
| Total Split (%)            |                                                                                   | 47.3%                                                                             |                                                                                   |                                                                                   | 80.9%                                                                             |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 19.1%                                                                               | 19.1%                                                                               | 19.1%                                                                               |
| Maximum Green (s)          |                                                                                   | 47.0                                                                              |                                                                                   |                                                                                   | 84.0                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 16.0                                                                                | 16.0                                                                                | 16.0                                                                                |
| Yellow Time (s)            |                                                                                   | 3.5                                                                               |                                                                                   |                                                                                   | 3.5                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 |
| All-Red Time (s)           |                                                                                   | 1.5                                                                               |                                                                                   |                                                                                   | 1.5                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 1.0                                                                                 | 1.0                                                                                 | 1.0                                                                                 |
| Lost Time Adjust (s)       |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |
| Total Lost Time (s)        |                                                                                   | 5.0                                                                               |                                                                                   |                                                                                   | 5.0                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |
| Lead/Lag                   |                                                                                   | Lag                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?         |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Vehicle Extension (s)      |                                                                                   | 3.0                                                                               |                                                                                   |                                                                                   | 3.0                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |
| Recall Mode                |                                                                                   | C-Min                                                                             |                                                                                   |                                                                                   | C-Min                                                                             |                                                                                   |                                                                                   |                                                                                     |                                                                                     | None                                                                                | None                                                                                | None                                                                                |
| Act Effect Green (s)       |                                                                                   | 48.6                                                                              |                                                                                   | 84.6                                                                              | 84.6                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 15.4                                                                                | 15.4                                                                                |
| Actuated g/C Ratio         |                                                                                   | 0.44                                                                              |                                                                                   | 0.77                                                                              | 0.77                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 0.14                                                                                | 0.14                                                                                |
| v/c Ratio                  |                                                                                   | 0.98                                                                              |                                                                                   | 0.94                                                                              | 0.43                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 0.85                                                                                | 0.69                                                                                |



# Lanes, Volumes, Timings

## 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

07/05/2022

| Lane Group                 | Ø1   | Ø3   |
|----------------------------|------|------|
| Lane Configurations        |      |      |
| Traffic Volume (vph)       |      |      |
| Future Volume (vph)        |      |      |
| Ideal Flow (vphpl)         |      |      |
| Storage Length (ft)        |      |      |
| Storage Lanes              |      |      |
| Taper Length (ft)          |      |      |
| Satd. Flow (prot)          |      |      |
| Flt Permitted              |      |      |
| Satd. Flow (perm)          |      |      |
| Right Turn on Red          |      |      |
| Satd. Flow (RTOR)          |      |      |
| Link Speed (mph)           |      |      |
| Link Distance (ft)         |      |      |
| Travel Time (s)            |      |      |
| Confl. Peds. (#/hr)        |      |      |
| Peak Hour Factor           |      |      |
| Heavy Vehicles (%)         |      |      |
| Shared Lane Traffic (%)    |      |      |
| Lane Group Flow (vph)      |      |      |
| Enter Blocked Intersection |      |      |
| Lane Alignment             |      |      |
| Median Width(ft)           |      |      |
| Link Offset(ft)            |      |      |
| Crosswalk Width(ft)        |      |      |
| Two way Left Turn Lane     |      |      |
| Headway Factor             |      |      |
| Turning Speed (mph)        |      |      |
| Turn Type                  |      |      |
| Protected Phases           | 1    | 3    |
| Permitted Phases           |      |      |
| Detector Phase             |      |      |
| Switch Phase               |      |      |
| Minimum Initial (s)        | 4.0  | 4.0  |
| Minimum Split (s)          | 9.0  | 9.0  |
| Total Split (s)            | 26.0 | 11.0 |
| Total Split (%)            | 24%  | 10%  |
| Maximum Green (s)          | 21.0 | 6.0  |
| Yellow Time (s)            | 3.5  | 3.5  |
| All-Red Time (s)           | 1.5  | 1.5  |
| Lost Time Adjust (s)       |      |      |
| Total Lost Time (s)        |      |      |
| Lead/Lag                   | Lead |      |
| Lead-Lag Optimize?         | Yes  |      |
| Vehicle Extension (s)      | 3.0  | 3.0  |
| Recall Mode                | None | None |
| Act Effect Green (s)       |      |      |
| Actuated g/C Ratio         |      |      |
| v/c Ratio                  |      |      |



# Lanes, Volumes, Timings

## 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Control Delay           |                                                                                   | 41.0                                                                              |                                                                                   | 56.9                                                                              | 3.2                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 76.2                                                                                | 29.2                                                                                |
| Queue Delay             |                                                                                   | 0.1                                                                               |                                                                                   | 19.8                                                                              | 0.4                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 3.6                                                                                 | 0.0                                                                                 |
| Total Delay             |                                                                                   | 41.1                                                                              |                                                                                   | 76.7                                                                              | 3.6                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 79.8                                                                                | 29.2                                                                                |
| LOS                     |                                                                                   | D                                                                                 |                                                                                   | E                                                                                 | A                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | E                                                                                   | C                                                                                   |
| Approach Delay          |                                                                                   | 41.1                                                                              |                                                                                   |                                                                                   | 24.2                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 52.9                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Queue Length 50th (ft)  |                                                                                   | ~547                                                                              |                                                                                   | 241                                                                               | 96                                                                                |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 145                                                                                 | 60                                                                                  |
| Queue Length 95th (ft)  |                                                                                   | m#681                                                                             |                                                                                   | m#382                                                                             | 124                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | #214                                                                                | 112                                                                                 |
| Internal Link Dist (ft) |                                                                                   | 623                                                                               |                                                                                   |                                                                                   | 280                                                                               |                                                                                   |                                                                                    | 542                                                                                 |                                                                                     |                                                                                     | 425                                                                                 |                                                                                     |
| Turn Bay Length (ft)    |                                                                                   |                                                                                   |                                                                                   | 150                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 125                                                                                 |
| Base Capacity (vph)     |                                                                                   | 1536                                                                              |                                                                                   | 501                                                                               | 2720                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 254                                                                                 | 351                                                                                 |
| Starvation Cap Reductn  |                                                                                   | 0                                                                                 |                                                                                   | 53                                                                                | 954                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 0                                                                                   | 0                                                                                   |
| Spillback Cap Reductn   |                                                                                   | 1                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 14                                                                                  | 0                                                                                   |
| Storage Cap Reductn     |                                                                                   | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 0                                                                                   | 0                                                                                   |
| Reduced v/c Ratio       |                                                                                   | 0.98                                                                              |                                                                                   | 1.02                                                                              | 0.66                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 0.87                                                                                | 0.68                                                                                |

### Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 26 (24%), Referenced to phase 2:EBT and 6:WBTL, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay: 34.9

Intersection LOS: C

Intersection Capacity Utilization 85.1%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

|                                                                                            |                                                                                            |                                                                                          |                                                                                          |
|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
|  Ø1     |  Ø2 (R) |  Ø3 |  Ø4 |
| 26 s                                                                                       | 52 s                                                                                       | 11 s                                                                                     | 21 s                                                                                     |
|  Ø6 (R) |                                                                                            |                                                                                          |                                                                                          |
| 89 s                                                                                       |                                                                                            |                                                                                          |                                                                                          |



## Lanes, Volumes, Timings

### 2: I-81 SB Onramp/I-81 SB Offramp & Route 31

07/05/2022

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| Lane Group | Ø1 | Ø3 |
|------------|----|----|
|------------|----|----|

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Control Delay

Queue Delay

Total Delay

LOS

Approach Delay

Approach LOS

Queue Length 50th (ft)

Queue Length 95th (ft)

Internal Link Dist (ft)

Turn Bay Length (ft)

Base Capacity (vph)

Starvation Cap Reductn

Spillback Cap Reductn

Storage Cap Reductn

Reduced v/c Ratio

Intersection Summary

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# Lanes, Volumes, Timings

## 3: I-81 NB Offramp/Pardee Road & Route 31

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |  |  |                                                                                   |                                                                                   |  |                                                                                   |  |  |  |                                                                                     |                                                                                     |  |
| Traffic Volume (vph)       | 281                                                                               | 1016                                                                              | 0                                                                                 | 0                                                                                 | 1186                                                                              | 221                                                                               | 208                                                                               | 50                                                                                  | 451                                                                                 | 0                                                                                   | 0                                                                                   | 121                                                                                 |
| Future Volume (vph)        | 281                                                                               | 1016                                                                              | 0                                                                                 | 0                                                                                 | 1186                                                                              | 221                                                                               | 208                                                                               | 50                                                                                  | 451                                                                                 | 0                                                                                   | 0                                                                                   | 121                                                                                 |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 85                                                                                |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 310                                                                               |                                                                                     | 100                                                                                 | 0                                                                                   |                                                                                     | 0                                                                                   |
| Storage Lanes              | 1                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                     | 1                                                                                   | 0                                                                                   |                                                                                     | 1                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 1787                                                                              | 3574                                                                              | 0                                                                                 | 0                                                                                 | 3488                                                                              | 0                                                                                 | 1787                                                                              | 1573                                                                                | 1519                                                                                | 0                                                                                   | 0                                                                                   | 1627                                                                                |
| Flt Permitted              | 0.063                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.950                                                                             |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Satd. Flow (perm)          | 119                                                                               | 3574                                                                              | 0                                                                                 | 0                                                                                 | 3488                                                                              | 0                                                                                 | 1787                                                                              | 1573                                                                                | 1519                                                                                | 0                                                                                   | 0                                                                                   | 1627                                                                                |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 28                                                                                |                                                                                   |                                                                                   | 147                                                                                 | 147                                                                                 |                                                                                     |                                                                                     | 84                                                                                  |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 40                                                                                  |                                                                                     |                                                                                     | 55                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 360                                                                               |                                                                                   |                                                                                   | 1082                                                                              |                                                                                   |                                                                                   | 639                                                                                 |                                                                                     |                                                                                     | 500                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 7.0                                                                               |                                                                                   |                                                                                   | 21.1                                                                              |                                                                                   |                                                                                   | 10.9                                                                                |                                                                                     |                                                                                     | 6.2                                                                                 |                                                                                     |
| Peak Hour Factor           | 0.91                                                                              | 0.91                                                                              | 0.91                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                                | 0.93                                                                                | 0.87                                                                                | 0.87                                                                                | 0.87                                                                                |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 45%                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 309                                                                               | 1116                                                                              | 0                                                                                 | 0                                                                                 | 1513                                                                              | 0                                                                                 | 224                                                                               | 272                                                                                 | 267                                                                                 | 0                                                                                   | 0                                                                                   | 139                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                  |                                                                                     |                                                                                     | 12                                                                                  |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | pm+pt                                                                             | NA                                                                                |                                                                                   |                                                                                   | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                  | Perm                                                                                |                                                                                     |                                                                                     | Over                                                                                |
| Protected Phases           | 5                                                                                 | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     | 5                                                                                   |
| Permitted Phases           | 2                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 8                                                                                 |                                                                                     | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Detector Phase             | 5                                                                                 | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   | 8                                                                                 | 8                                                                                   | 8                                                                                   |                                                                                     |                                                                                     | 5                                                                                   |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 4.0                                                                               | 12.0                                                                              |                                                                                   |                                                                                   | 12.0                                                                              |                                                                                   | 6.0                                                                               | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |                                                                                     | 4.0                                                                                 |
| Minimum Split (s)          | 9.0                                                                               | 17.5                                                                              |                                                                                   |                                                                                   | 17.5                                                                              |                                                                                   | 12.0                                                                              | 12.0                                                                                | 12.0                                                                                |                                                                                     |                                                                                     | 9.0                                                                                 |
| Total Split (s)            | 25.0                                                                              | 86.0                                                                              |                                                                                   |                                                                                   | 61.0                                                                              |                                                                                   | 24.0                                                                              | 24.0                                                                                | 24.0                                                                                |                                                                                     |                                                                                     | 25.0                                                                                |
| Total Split (%)            | 22.7%                                                                             | 78.2%                                                                             |                                                                                   |                                                                                   | 55.5%                                                                             |                                                                                   | 21.8%                                                                             | 21.8%                                                                               | 21.8%                                                                               |                                                                                     |                                                                                     | 22.7%                                                                               |
| Maximum Green (s)          | 20.0                                                                              | 80.5                                                                              |                                                                                   |                                                                                   | 55.5                                                                              |                                                                                   | 18.0                                                                              | 18.0                                                                                | 18.0                                                                                |                                                                                     |                                                                                     | 20.0                                                                                |
| Yellow Time (s)            | 3.0                                                                               | 3.5                                                                               |                                                                                   |                                                                                   | 3.5                                                                               |                                                                                   | 4.0                                                                               | 4.0                                                                                 | 4.0                                                                                 |                                                                                     |                                                                                     | 3.0                                                                                 |
| All-Red Time (s)           | 2.0                                                                               | 2.0                                                                               |                                                                                   |                                                                                   | 2.0                                                                               |                                                                                   | 2.0                                                                               | 2.0                                                                                 | 2.0                                                                                 |                                                                                     |                                                                                     | 2.0                                                                                 |
| Lost Time Adjust (s)       | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |                                                                                     | 0.0                                                                                 |
| Total Lost Time (s)        | 5.0                                                                               | 5.5                                                                               |                                                                                   |                                                                                   | 5.5                                                                               |                                                                                   | 6.0                                                                               | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |                                                                                     | 5.0                                                                                 |
| Lead/Lag                   | Lead                                                                              |                                                                                   |                                                                                   |                                                                                   | Lag                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | Lead                                                                                |
| Lead-Lag Optimize?         | Yes                                                                               |                                                                                   |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | Yes                                                                                 |
| Vehicle Extension (s)      | 3.0                                                                               | 3.0                                                                               |                                                                                   |                                                                                   | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |                                                                                     | 3.0                                                                                 |
| Recall Mode                | None                                                                              | C-Min                                                                             |                                                                                   |                                                                                   | C-Min                                                                             |                                                                                   | None                                                                              | None                                                                                | None                                                                                |                                                                                     |                                                                                     | None                                                                                |
| Act Effct Green (s)        | 82.0                                                                              | 81.5                                                                              |                                                                                   |                                                                                   | 58.7                                                                              |                                                                                   | 17.0                                                                              | 17.0                                                                                | 17.0                                                                                |                                                                                     |                                                                                     | 17.8                                                                                |
| Actuated g/C Ratio         | 0.75                                                                              | 0.74                                                                              |                                                                                   |                                                                                   | 0.53                                                                              |                                                                                   | 0.15                                                                              | 0.15                                                                                | 0.15                                                                                |                                                                                     |                                                                                     | 0.16                                                                                |
| v/c Ratio                  | 0.86                                                                              | 0.42                                                                              |                                                                                   |                                                                                   | 0.81                                                                              |                                                                                   | 0.81                                                                              | 0.74                                                                                | 0.74                                                                                |                                                                                     |                                                                                     | 0.42                                                                                |
| Control Delay              | 53.0                                                                              | 2.1                                                                               |                                                                                   |                                                                                   | 23.5                                                                              |                                                                                   | 67.8                                                                              | 33.0                                                                                | 33.1                                                                                |                                                                                     |                                                                                     | 21.3                                                                                |



# Lanes, Volumes, Timings

## 3: I-81 NB Offramp/Pardee Road & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Queue Delay             | 0.9                                                                               | 0.5                                                                               |                                                                                   |                                                                                   | 0.2                                                                               |                                                                                   | 11.2                                                                               | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |                                                                                     | 0.3                                                                                 |
| Total Delay             | 54.0                                                                              | 2.6                                                                               |                                                                                   |                                                                                   | 23.7                                                                              |                                                                                   | 79.0                                                                               | 33.0                                                                                | 33.1                                                                                |                                                                                     |                                                                                     | 21.6                                                                                |
| LOS                     | D                                                                                 | A                                                                                 |                                                                                   |                                                                                   | C                                                                                 |                                                                                   | E                                                                                  | C                                                                                   | C                                                                                   |                                                                                     |                                                                                     | C                                                                                   |
| Approach Delay          |                                                                                   | 13.7                                                                              |                                                                                   |                                                                                   | 23.7                                                                              |                                                                                   |                                                                                    | 46.5                                                                                |                                                                                     |                                                                                     | 21.6                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | B                                                                                 |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                    | D                                                                                   |                                                                                     |                                                                                     | C                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 194                                                                               | 67                                                                                |                                                                                   |                                                                                   | 383                                                                               |                                                                                   | 153                                                                                | 87                                                                                  | 84                                                                                  |                                                                                     |                                                                                     | 33                                                                                  |
| Queue Length 95th (ft)  | m205                                                                              | m70                                                                               |                                                                                   |                                                                                   | m500                                                                              |                                                                                   | #269                                                                               | #192                                                                                | #201                                                                                |                                                                                     |                                                                                     | 86                                                                                  |
| Internal Link Dist (ft) |                                                                                   | 280                                                                               |                                                                                   |                                                                                   | 1002                                                                              |                                                                                   |                                                                                    | 559                                                                                 |                                                                                     |                                                                                     | 420                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 85                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 310                                                                                |                                                                                     | 100                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| Base Capacity (vph)     | 391                                                                               | 2647                                                                              |                                                                                   |                                                                                   | 1874                                                                              |                                                                                   | 292                                                                                | 380                                                                                 | 371                                                                                 |                                                                                     |                                                                                     | 364                                                                                 |
| Starvation Cap Reductn  | 12                                                                                | 954                                                                               |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 47                                                                                |                                                                                   | 48                                                                                 | 0                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 36                                                                                  |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |
| Reduced v/c Ratio       | 0.82                                                                              | 0.66                                                                              |                                                                                   |                                                                                   | 0.83                                                                              |                                                                                   | 0.92                                                                               | 0.72                                                                                | 0.72                                                                                |                                                                                     |                                                                                     | 0.42                                                                                |

### Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 36 (33%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 24.4

Intersection LOS: C

Intersection Capacity Utilization 81.0%

ICU Level of Service D

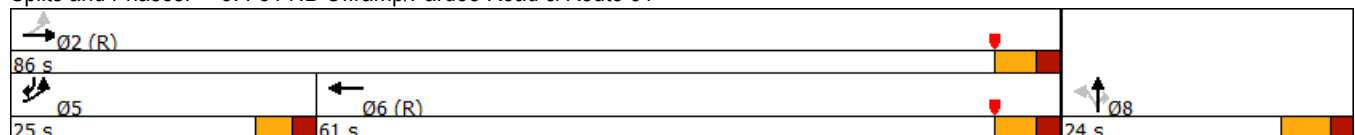
Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: I-81 NB Offramp/Pardee Road & Route 31





# Lanes, Volumes, Timings

## 4: Route 31 & Lakeshore Road

07/05/2022

|                            |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | WBT                                                                               | WBR                                                                               | SBL                                                                               | SBR                                                                               |
| Lane Configurations        |  |  |  |                                                                                   |                                                                                   |  |
| Traffic Volume (vph)       | 572                                                                               | 895                                                                               | 851                                                                               | 0                                                                                 | 0                                                                                 | 556                                                                               |
| Future Volume (vph)        | 572                                                                               | 895                                                                               | 851                                                                               | 0                                                                                 | 0                                                                                 | 556                                                                               |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Storage Length (ft)        | 225                                                                               |                                                                                   |                                                                                   | 0                                                                                 | 0                                                                                 | 0                                                                                 |
| Storage Lanes              | 1                                                                                 |                                                                                   |                                                                                   | 0                                                                                 | 0                                                                                 | 1                                                                                 |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |
| Satd. Flow (prot)          | 1787                                                                              | 3574                                                                              | 1881                                                                              | 0                                                                                 | 0                                                                                 | 1627                                                                              |
| Flt Permitted              | 0.059                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Satd. Flow (perm)          | 111                                                                               | 3574                                                                              | 1881                                                                              | 0                                                                                 | 0                                                                                 | 1627                                                                              |
| Right Turn on Red          |                                                                                   |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   | Yes                                                                               |
| Satd. Flow (RTOR)          |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 114                                                                               |
| Link Speed (mph)           |                                                                                   | 35                                                                                | 35                                                                                |                                                                                   | 35                                                                                |                                                                                   |
| Link Distance (ft)         |                                                                                   | 1082                                                                              | 959                                                                               |                                                                                   | 962                                                                               |                                                                                   |
| Travel Time (s)            |                                                                                   | 21.1                                                                              | 18.7                                                                              |                                                                                   | 18.7                                                                              |                                                                                   |
| Peak Hour Factor           | 0.93                                                                              | 0.93                                                                              | 0.87                                                                              | 0.87                                                                              | 0.93                                                                              | 0.93                                                                              |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)      | 615                                                                               | 962                                                                               | 978                                                                               | 0                                                                                 | 0                                                                                 | 598                                                                               |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment             | Left                                                                              | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Right                                                                             |
| Median Width(ft)           |                                                                                   | 12                                                                                | 12                                                                                |                                                                                   | 0                                                                                 |                                                                                   |
| Link Offset(ft)            |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 |                                                                                   |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                | 16                                                                                |                                                                                   | 16                                                                                |                                                                                   |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (mph)        | 15                                                                                |                                                                                   |                                                                                   | 9                                                                                 | 15                                                                                | 9                                                                                 |
| Turn Type                  | pm+pt                                                                             | NA                                                                                | NA                                                                                |                                                                                   |                                                                                   | Over                                                                              |
| Protected Phases           | 5                                                                                 | 2                                                                                 | 6                                                                                 |                                                                                   |                                                                                   | 5                                                                                 |
| Permitted Phases           | 2                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Detector Phase             | 5                                                                                 | 2                                                                                 | 6                                                                                 |                                                                                   |                                                                                   | 5                                                                                 |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Minimum Initial (s)        | 6.0                                                                               | 10.0                                                                              | 10.0                                                                              |                                                                                   |                                                                                   | 6.0                                                                               |
| Minimum Split (s)          | 11.0                                                                              | 15.0                                                                              | 15.0                                                                              |                                                                                   |                                                                                   | 11.0                                                                              |
| Total Split (s)            | 42.0                                                                              | 110.0                                                                             | 68.0                                                                              |                                                                                   |                                                                                   | 42.0                                                                              |
| Total Split (%)            | 38.2%                                                                             | 100.0%                                                                            | 61.8%                                                                             |                                                                                   |                                                                                   | 38.2%                                                                             |
| Maximum Green (s)          | 37.0                                                                              | 105.0                                                                             | 63.0                                                                              |                                                                                   |                                                                                   | 37.0                                                                              |
| Yellow Time (s)            | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               |                                                                                   |                                                                                   | 4.0                                                                               |
| All-Red Time (s)           | 1.0                                                                               | 1.0                                                                               | 1.0                                                                               |                                                                                   |                                                                                   | 1.0                                                                               |
| Lost Time Adjust (s)       | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |
| Total Lost Time (s)        | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               |                                                                                   |                                                                                   | 5.0                                                                               |
| Lead/Lag                   | Lead                                                                              |                                                                                   | Lag                                                                               |                                                                                   |                                                                                   | Lead                                                                              |
| Lead-Lag Optimize?         | Yes                                                                               |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |
| Vehicle Extension (s)      | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               |                                                                                   |                                                                                   | 3.0                                                                               |
| Recall Mode                | None                                                                              | C-Max                                                                             | C-Max                                                                             |                                                                                   |                                                                                   | None                                                                              |
| Act Effct Green (s)        | 105.0                                                                             | 110.0                                                                             | 63.3                                                                              |                                                                                   |                                                                                   | 36.7                                                                              |
| Actuated g/C Ratio         | 0.95                                                                              | 1.00                                                                              | 0.58                                                                              |                                                                                   |                                                                                   | 0.33                                                                              |
| v/c Ratio                  | 0.93                                                                              | 0.27                                                                              | 0.90                                                                              |                                                                                   |                                                                                   | 0.97                                                                              |
| Control Delay              | 47.4                                                                              | 0.2                                                                               | 34.0                                                                              |                                                                                   |                                                                                   | 59.2                                                                              |



# Lanes, Volumes, Timings

## 4: Route 31 & Lakeshore Road

07/05/2022

|                         |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | WBT                                                                               | WBR                                                                               | SBL                                                                               | SBR                                                                               |
| Queue Delay             | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |
| Total Delay             | 47.4                                                                              | 0.2                                                                               | 34.0                                                                              |                                                                                   |                                                                                   | 59.2                                                                              |
| LOS                     | D                                                                                 | A                                                                                 | C                                                                                 |                                                                                   |                                                                                   | E                                                                                 |
| Approach Delay          |                                                                                   | 18.6                                                                              | 34.0                                                                              |                                                                                   | 59.2                                                                              |                                                                                   |
| Approach LOS            |                                                                                   | B                                                                                 | C                                                                                 |                                                                                   | E                                                                                 |                                                                                   |
| Queue Length 50th (ft)  | 408                                                                               | 0                                                                                 | 581                                                                               |                                                                                   |                                                                                   | 349                                                                               |
| Queue Length 95th (ft)  | #599                                                                              | 0                                                                                 | #837                                                                              |                                                                                   |                                                                                   | #584                                                                              |
| Internal Link Dist (ft) |                                                                                   | 1002                                                                              | 879                                                                               |                                                                                   | 882                                                                               |                                                                                   |
| Turn Bay Length (ft)    | 225                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Base Capacity (vph)     | 669                                                                               | 3574                                                                              | 1082                                                                              |                                                                                   |                                                                                   | 622                                                                               |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |
| Reduced v/c Ratio       | 0.92                                                                              | 0.27                                                                              | 0.90                                                                              |                                                                                   |                                                                                   | 0.96                                                                              |

### Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 44.5 (40%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.97

Intersection Signal Delay: 31.1

Intersection Capacity Utilization 87.6%

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

Intersection LOS: C  
ICU Level of Service E

### Splits and Phases: 4: Route 31 & Lakeshore Road

|                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  |  |  |  |  |  |
| Ø2 (R)                                                                              | Ø5                                                                                  | Ø6 (R)                                                                              |                                                                                     |                                                                                     |                                                                                     |
| 110 s                                                                               | 42 s                                                                                | 68 s                                                                                |                                                                                     |                                                                                     |                                                                                     |



Lanes, Volumes, Timings  
5: South Bay Road & Route 31

07/05/2022

|                            |  |  |  |  |  |  |   |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |  |  |                                                                                   |  |  |                                                                                   |  |  |  |  |  |                                                                                     |
| Traffic Volume (vph)       | 101                                                                               | 420                                                                               | 67                                                                                | 180                                                                               | 433                                                                               | 21                                                                                | 69                                                                                 | 281                                                                                 | 153                                                                                 | 13                                                                                  | 290                                                                                 | 121                                                                                 |
| Future Volume (vph)        | 101                                                                               | 420                                                                               | 67                                                                                | 180                                                                               | 433                                                                               | 21                                                                                | 69                                                                                 | 281                                                                                 | 153                                                                                 | 13                                                                                  | 290                                                                                 | 121                                                                                 |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                               | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 225                                                                               |                                                                                   | 0                                                                                 | 225                                                                               |                                                                                   | 0                                                                                 | 280                                                                                |                                                                                     | 150                                                                                 | 225                                                                                 |                                                                                     | 0                                                                                   |
| Storage Lanes              | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                  |                                                                                     | 1                                                                                   | 1                                                                                   |                                                                                     | 0                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                 |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 1787                                                                              | 1842                                                                              | 0                                                                                 | 1787                                                                              | 1868                                                                              | 0                                                                                 | 1752                                                                               | 1845                                                                                | 1568                                                                                | 1752                                                                                | 1751                                                                                | 0                                                                                   |
| Flt Permitted              | 0.170                                                                             |                                                                                   |                                                                                   | 0.141                                                                             |                                                                                   |                                                                                   | 0.148                                                                              |                                                                                     |                                                                                     | 0.484                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)          | 320                                                                               | 1842                                                                              | 0                                                                                 | 265                                                                               | 1868                                                                              | 0                                                                                 | 273                                                                                | 1845                                                                                | 1532                                                                                | 892                                                                                 | 1751                                                                                | 0                                                                                   |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                    |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   | 7                                                                                 |                                                                                   |                                                                                   | 2                                                                                 |                                                                                   |                                                                                    |                                                                                     | 174                                                                                 |                                                                                     | 19                                                                                  |                                                                                     |
| Link Speed (mph)           |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 55                                                                                |                                                                                   |                                                                                    | 45                                                                                  |                                                                                     |                                                                                     | 45                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 788                                                                               |                                                                                   |                                                                                   | 825                                                                               |                                                                                   |                                                                                    | 794                                                                                 |                                                                                     |                                                                                     | 652                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 11.9                                                                              |                                                                                   |                                                                                   | 10.2                                                                              |                                                                                   |                                                                                    | 12.0                                                                                |                                                                                     |                                                                                     | 9.9                                                                                 |                                                                                     |
| Confl. Peds. (#/hr)        |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 3                                                                                  |                                                                                     | 2                                                                                   | 2                                                                                   |                                                                                     | 3                                                                                   |
| Peak Hour Factor           | 0.89                                                                              | 0.89                                                                              | 0.89                                                                              | 1.00                                                                              | 0.86                                                                              | 0.86                                                                              | 0.80                                                                               | 0.88                                                                                | 0.88                                                                                | 0.73                                                                                | 0.73                                                                                | 0.73                                                                                |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 3%                                                                                 | 3%                                                                                  | 3%                                                                                  | 3%                                                                                  | 3%                                                                                  | 3%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 113                                                                               | 547                                                                               | 0                                                                                 | 180                                                                               | 527                                                                               | 0                                                                                 | 86                                                                                 | 319                                                                                 | 174                                                                                 | 18                                                                                  | 563                                                                                 | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                 | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                               | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                    | 12                                                                                  |                                                                                     |                                                                                     | 12                                                                                  |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                    | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                    | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                 |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                              | NA                                                                                  | Perm                                                                                | pm+pt                                                                               | NA                                                                                  |                                                                                     |
| Protected Phases           | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 3                                                                                  | 8                                                                                   |                                                                                     | 7                                                                                   | 4                                                                                   |                                                                                     |
| Permitted Phases           | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                  |                                                                                     | 8                                                                                   | 4                                                                                   |                                                                                     |                                                                                     |
| Detector Phase             | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 3                                                                                  | 8                                                                                   | 8                                                                                   | 7                                                                                   | 4                                                                                   |                                                                                     |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 6.0                                                                               | 15.0                                                                              |                                                                                   | 6.0                                                                               | 15.0                                                                              |                                                                                   | 6.0                                                                                | 10.0                                                                                | 10.0                                                                                | 6.0                                                                                 | 10.0                                                                                |                                                                                     |
| Minimum Split (s)          | 10.5                                                                              | 22.8                                                                              |                                                                                   | 10.5                                                                              | 22.8                                                                              |                                                                                   | 10.5                                                                               | 16.8                                                                                | 16.8                                                                                | 10.5                                                                                | 16.8                                                                                |                                                                                     |
| Total Split (s)            | 12.0                                                                              | 48.0                                                                              |                                                                                   | 12.0                                                                              | 48.0                                                                              |                                                                                   | 11.0                                                                               | 49.0                                                                                | 49.0                                                                                | 11.0                                                                                | 49.0                                                                                |                                                                                     |
| Total Split (%)            | 10.0%                                                                             | 40.0%                                                                             |                                                                                   | 10.0%                                                                             | 40.0%                                                                             |                                                                                   | 9.2%                                                                               | 40.8%                                                                               | 40.8%                                                                               | 9.2%                                                                                | 40.8%                                                                               |                                                                                     |
| Maximum Green (s)          | 7.5                                                                               | 40.2                                                                              |                                                                                   | 7.5                                                                               | 40.2                                                                              |                                                                                   | 6.5                                                                                | 42.2                                                                                | 42.2                                                                                | 6.5                                                                                 | 42.2                                                                                |                                                                                     |
| Yellow Time (s)            | 3.5                                                                               | 4.9                                                                               |                                                                                   | 3.5                                                                               | 4.9                                                                               |                                                                                   | 3.5                                                                                | 4.9                                                                                 | 4.9                                                                                 | 3.5                                                                                 | 4.9                                                                                 |                                                                                     |
| All-Red Time (s)           | 1.0                                                                               | 2.9                                                                               |                                                                                   | 1.0                                                                               | 2.9                                                                               |                                                                                   | 1.0                                                                                | 1.9                                                                                 | 1.9                                                                                 | 1.0                                                                                 | 1.9                                                                                 |                                                                                     |
| Lost Time Adjust (s)       | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                                | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)        | 4.5                                                                               | 7.8                                                                               |                                                                                   | 4.5                                                                               | 7.8                                                                               |                                                                                   | 4.5                                                                                | 6.8                                                                                 | 6.8                                                                                 | 4.5                                                                                 | 6.8                                                                                 |                                                                                     |
| Lead/Lag                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                               | Lag                                                                                 | Lag                                                                                 | Lead                                                                                | Lag                                                                                 |                                                                                     |
| Lead-Lag Optimize?         | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                                | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 |                                                                                     |
| Vehicle Extension (s)      | 3.0                                                                               | 6.0                                                                               |                                                                                   | 3.0                                                                               | 6.0                                                                               |                                                                                   | 3.0                                                                                | 6.0                                                                                 | 6.0                                                                                 | 3.0                                                                                 | 6.0                                                                                 |                                                                                     |
| Minimum Gap (s)            | 3.0                                                                               | 2.0                                                                               |                                                                                   | 3.0                                                                               | 2.0                                                                               |                                                                                   | 3.0                                                                                | 2.0                                                                                 | 2.0                                                                                 | 3.0                                                                                 | 2.0                                                                                 |                                                                                     |
| Time Before Reduce (s)     | 0.0                                                                               | 10.0                                                                              |                                                                                   | 0.0                                                                               | 10.0                                                                              |                                                                                   | 0.0                                                                                | 10.0                                                                                | 10.0                                                                                | 0.0                                                                                 | 10.0                                                                                |                                                                                     |
| Time To Reduce (s)         | 0.0                                                                               | 15.0                                                                              |                                                                                   | 0.0                                                                               | 15.0                                                                              |                                                                                   | 0.0                                                                                | 15.0                                                                                | 15.0                                                                                | 0.0                                                                                 | 15.0                                                                                |                                                                                     |
| Recall Mode                | None                                                                              | Min                                                                               |                                                                                   | None                                                                              | Min                                                                               |                                                                                   | None                                                                               | None                                                                                | None                                                                                | None                                                                                | None                                                                                |                                                                                     |



# Lanes, Volumes, Timings

## 5: South Bay Road & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Act Effect Green (s)    | 48.3                                                                              | 37.5                                                                              |                                                                                   | 48.8                                                                              | 37.7                                                                              |                                                                                   | 48.3                                                                               | 43.5                                                                                | 43.5                                                                                | 46.5                                                                                | 39.4                                                                                |                                                                                     |
| Actuated g/C Ratio      | 0.43                                                                              | 0.33                                                                              |                                                                                   | 0.43                                                                              | 0.34                                                                              |                                                                                   | 0.43                                                                               | 0.39                                                                                | 0.39                                                                                | 0.41                                                                                | 0.35                                                                                |                                                                                     |
| v/c Ratio               | 0.48                                                                              | 0.89                                                                              |                                                                                   | 0.83                                                                              | 0.84                                                                              |                                                                                   | 0.42                                                                               | 0.45                                                                                | 0.25                                                                                | 0.04                                                                                | 0.90                                                                                |                                                                                     |
| Control Delay           | 25.6                                                                              | 53.5                                                                              |                                                                                   | 52.1                                                                              | 49.0                                                                              |                                                                                   | 24.9                                                                               | 29.2                                                                                | 5.0                                                                                 | 18.0                                                                                | 53.3                                                                                |                                                                                     |
| Queue Delay             | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                                | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Delay             | 25.6                                                                              | 53.5                                                                              |                                                                                   | 52.1                                                                              | 49.0                                                                              |                                                                                   | 24.9                                                                               | 29.2                                                                                | 5.0                                                                                 | 18.0                                                                                | 53.3                                                                                |                                                                                     |
| LOS                     | C                                                                                 | D                                                                                 |                                                                                   | D                                                                                 | D                                                                                 |                                                                                   | C                                                                                  | C                                                                                   | A                                                                                   | B                                                                                   | D                                                                                   |                                                                                     |
| Approach Delay          |                                                                                   | 48.7                                                                              |                                                                                   |                                                                                   | 49.8                                                                              |                                                                                   |                                                                                    | 21.3                                                                                |                                                                                     |                                                                                     | 52.2                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                    | C                                                                                   |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 49                                                                                | 393                                                                               |                                                                                   | 81                                                                                | 375                                                                               |                                                                                   | 37                                                                                 | 163                                                                                 | 0                                                                                   | 7                                                                                   | 399                                                                                 |                                                                                     |
| Queue Length 95th (ft)  | 84                                                                                | #585                                                                              |                                                                                   | #191                                                                              | #492                                                                              |                                                                                   | 60                                                                                 | 273                                                                                 | 44                                                                                  | 17                                                                                  | 403                                                                                 |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 708                                                                               |                                                                                   |                                                                                   | 745                                                                               |                                                                                   |                                                                                    | 714                                                                                 |                                                                                     |                                                                                     | 572                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 225                                                                               |                                                                                   |                                                                                   | 225                                                                               |                                                                                   |                                                                                   | 280                                                                                |                                                                                     | 150                                                                                 | 225                                                                                 |                                                                                     |                                                                                     |
| Base Capacity (vph)     | 238                                                                               | 678                                                                               |                                                                                   | 218                                                                               | 685                                                                               |                                                                                   | 205                                                                                | 776                                                                                 | 746                                                                                 | 421                                                                                 | 685                                                                                 |                                                                                     |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       | 0.47                                                                              | 0.81                                                                              |                                                                                   | 0.83                                                                              | 0.77                                                                              |                                                                                   | 0.42                                                                               | 0.41                                                                                | 0.23                                                                                | 0.04                                                                                | 0.82                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 112.4

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 43.5

Intersection LOS: D

Intersection Capacity Utilization 83.5%

ICU Level of Service E

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

### Splits and Phases: 5: South Bay Road & Route 31

|                                                                                        |                                                                                        |                                                                                        |                                                                                        |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
|  Ø1 |  Ø2 |  Ø3 |  Ø4 |
| 12 s                                                                                   | 48 s                                                                                   | 11 s                                                                                   | 49 s                                                                                   |
|  Ø5 |  Ø6 |  Ø7 |  Ø8 |
| 12 s                                                                                   | 48 s                                                                                   | 11 s                                                                                   | 49 s                                                                                   |



Lanes, Volumes, Timings  
6: Cicero Center Road & Route 31

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (vph)       | 64                                                                                | 449                                                                               | 7                                                                                 | 3                                                                                 | 389                                                                               | 47                                                                                | 7                                                                                 | 21                                                                                  | 6                                                                                   | 50                                                                                  | 9                                                                                   | 45                                                                                  |
| Future Volume (vph)        | 64                                                                                | 449                                                                               | 7                                                                                 | 3                                                                                 | 389                                                                               | 47                                                                                | 7                                                                                 | 21                                                                                  | 6                                                                                   | 50                                                                                  | 9                                                                                   | 45                                                                                  |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Satd. Flow (prot)          | 0                                                                                 | 1866                                                                              | 0                                                                                 | 0                                                                                 | 1855                                                                              | 0                                                                                 | 0                                                                                 | 1816                                                                                | 0                                                                                   | 0                                                                                   | 1713                                                                                | 0                                                                                   |
| Flt Permitted              |                                                                                   | 0.895                                                                             |                                                                                   |                                                                                   | 0.997                                                                             |                                                                                   |                                                                                   | 0.925                                                                               |                                                                                     |                                                                                     | 0.822                                                                               |                                                                                     |
| Satd. Flow (perm)          | 0                                                                                 | 1680                                                                              | 0                                                                                 | 0                                                                                 | 1849                                                                              | 0                                                                                 | 0                                                                                 | 1696                                                                                | 0                                                                                   | 0                                                                                   | 1441                                                                                | 0                                                                                   |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   | 2                                                                                 |                                                                                   |                                                                                   | 17                                                                                |                                                                                   |                                                                                   | 9                                                                                   |                                                                                     |                                                                                     | 57                                                                                  |                                                                                     |
| Link Speed (mph)           |                                                                                   | 55                                                                                |                                                                                   |                                                                                   | 55                                                                                |                                                                                   |                                                                                   | 55                                                                                  |                                                                                     |                                                                                     | 55                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 583                                                                               |                                                                                   |                                                                                   | 608                                                                               |                                                                                   |                                                                                   | 500                                                                                 |                                                                                     |                                                                                     | 505                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 7.2                                                                               |                                                                                   |                                                                                   | 7.5                                                                               |                                                                                   |                                                                                   | 6.2                                                                                 |                                                                                     |                                                                                     | 6.3                                                                                 |                                                                                     |
| Confl. Peds. (#/hr)        |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 1                                                                                   |
| Peak Hour Factor           | 0.95                                                                              | 0.95                                                                              | 0.95                                                                              | 0.87                                                                              | 0.87                                                                              | 0.87                                                                              | 0.69                                                                              | 0.69                                                                                | 0.69                                                                                | 0.79                                                                                | 0.79                                                                                | 0.79                                                                                |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 0                                                                                 | 547                                                                               | 0                                                                                 | 0                                                                                 | 504                                                                               | 0                                                                                 | 0                                                                                 | 49                                                                                  | 0                                                                                   | 0                                                                                   | 131                                                                                 | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                  |                                                                                     | Perm                                                                                | NA                                                                                  |                                                                                     |
| Protected Phases           |                                                                                   | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                   |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |
| Permitted Phases           | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |                                                                                     |
| Detector Phase             | 2                                                                                 | 2                                                                                 |                                                                                   | 6                                                                                 | 6                                                                                 |                                                                                   | 8                                                                                 | 8                                                                                   |                                                                                     | 4                                                                                   | 4                                                                                   |                                                                                     |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 15.0                                                                              | 15.0                                                                              |                                                                                   | 15.0                                                                              | 15.0                                                                              |                                                                                   | 7.0                                                                               | 7.0                                                                                 |                                                                                     | 7.0                                                                                 | 7.0                                                                                 |                                                                                     |
| Minimum Split (s)          | 21.0                                                                              | 21.0                                                                              |                                                                                   | 21.0                                                                              | 21.0                                                                              |                                                                                   | 12.0                                                                              | 12.0                                                                                |                                                                                     | 12.0                                                                                | 12.0                                                                                |                                                                                     |
| Total Split (s)            | 30.0                                                                              | 30.0                                                                              |                                                                                   | 30.0                                                                              | 30.0                                                                              |                                                                                   | 20.0                                                                              | 20.0                                                                                |                                                                                     | 20.0                                                                                | 20.0                                                                                |                                                                                     |
| Total Split (%)            | 60.0%                                                                             | 60.0%                                                                             |                                                                                   | 60.0%                                                                             | 60.0%                                                                             |                                                                                   | 40.0%                                                                             | 40.0%                                                                               |                                                                                     | 40.0%                                                                               | 40.0%                                                                               |                                                                                     |
| Maximum Green (s)          | 24.0                                                                              | 24.0                                                                              |                                                                                   | 24.0                                                                              | 24.0                                                                              |                                                                                   | 15.0                                                                              | 15.0                                                                                |                                                                                     | 15.0                                                                                | 15.0                                                                                |                                                                                     |
| Yellow Time (s)            | 4.0                                                                               | 4.0                                                                               |                                                                                   | 4.0                                                                               | 4.0                                                                               |                                                                                   | 4.0                                                                               | 4.0                                                                                 |                                                                                     | 4.0                                                                                 | 4.0                                                                                 |                                                                                     |
| All-Red Time (s)           | 2.0                                                                               | 2.0                                                                               |                                                                                   | 2.0                                                                               | 2.0                                                                               |                                                                                   | 1.0                                                                               | 1.0                                                                                 |                                                                                     | 1.0                                                                                 | 1.0                                                                                 |                                                                                     |
| Lost Time Adjust (s)       |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                                 |                                                                                     |                                                                                     | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)        |                                                                                   | 6.0                                                                               |                                                                                   |                                                                                   | 6.0                                                                               |                                                                                   |                                                                                   | 5.0                                                                                 |                                                                                     |                                                                                     | 5.0                                                                                 |                                                                                     |
| Lead/Lag                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?         |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Vehicle Extension (s)      | 5.0                                                                               | 5.0                                                                               |                                                                                   | 5.0                                                                               | 5.0                                                                               |                                                                                   | 2.0                                                                               | 2.0                                                                                 |                                                                                     | 2.0                                                                                 | 2.0                                                                                 |                                                                                     |
| Recall Mode                | Max                                                                               | Max                                                                               |                                                                                   | Max                                                                               | Max                                                                               |                                                                                   | None                                                                              | None                                                                                |                                                                                     | None                                                                                | None                                                                                |                                                                                     |
| Act Effect Green (s)       |                                                                                   | 28.1                                                                              |                                                                                   |                                                                                   | 28.1                                                                              |                                                                                   |                                                                                   | 8.0                                                                                 |                                                                                     |                                                                                     | 8.0                                                                                 |                                                                                     |
| Actuated g/C Ratio         |                                                                                   | 0.64                                                                              |                                                                                   |                                                                                   | 0.64                                                                              |                                                                                   |                                                                                   | 0.18                                                                                |                                                                                     |                                                                                     | 0.18                                                                                |                                                                                     |
| v/c Ratio                  |                                                                                   | 0.51                                                                              |                                                                                   |                                                                                   | 0.42                                                                              |                                                                                   |                                                                                   | 0.15                                                                                |                                                                                     |                                                                                     | 0.42                                                                                |                                                                                     |
| Control Delay              |                                                                                   | 8.3                                                                               |                                                                                   |                                                                                   | 6.9                                                                               |                                                                                   |                                                                                   | 13.7                                                                                |                                                                                     |                                                                                     | 14.3                                                                                |                                                                                     |
| Queue Delay                |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                                 |                                                                                     |                                                                                     | 0.0                                                                                 |                                                                                     |
| Total Delay                |                                                                                   | 8.3                                                                               |                                                                                   |                                                                                   | 6.9                                                                               |                                                                                   |                                                                                   | 13.7                                                                                |                                                                                     |                                                                                     | 14.3                                                                                |                                                                                     |



# Lanes, Volumes, Timings

## 6: Cicero Center Road & Route 31

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| LOS                     |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | B                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| Approach Delay          |                                                                                   | 8.3                                                                               |                                                                                   |                                                                                   | 6.9                                                                               |                                                                                   |                                                                                   | 13.7                                                                                |                                                                                     |                                                                                     | 14.3                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | B                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| Queue Length 50th (ft)  |                                                                                   | 68                                                                                |                                                                                   |                                                                                   | 55                                                                                |                                                                                   |                                                                                   | 8                                                                                   |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Queue Length 95th (ft)  |                                                                                   | 166                                                                               |                                                                                   |                                                                                   | 126                                                                               |                                                                                   |                                                                                   | 20                                                                                  |                                                                                     |                                                                                     | 41                                                                                  |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 503                                                                               |                                                                                   |                                                                                   | 528                                                                               |                                                                                   |                                                                                   | 420                                                                                 |                                                                                     |                                                                                     | 425                                                                                 |                                                                                     |
| Turn Bay Length (ft)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Base Capacity (vph)     |                                                                                   | 1083                                                                              |                                                                                   |                                                                                   | 1197                                                                              |                                                                                   |                                                                                   | 590                                                                                 |                                                                                     |                                                                                     | 533                                                                                 |                                                                                     |
| Starvation Cap Reductn  |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       |                                                                                   | 0.51                                                                              |                                                                                   |                                                                                   | 0.42                                                                              |                                                                                   |                                                                                   | 0.08                                                                                |                                                                                     |                                                                                     | 0.25                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Cycle Length: 50

Actuated Cycle Length: 43.6

Natural Cycle: 40

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.51

Intersection Signal Delay: 8.6

Intersection Capacity Utilization 77.6%

Analysis Period (min) 15

Intersection LOS: A

ICU Level of Service D

Splits and Phases: 6: Cicero Center Road & Route 31

|                                                                                        |  |                                                                                        |
|----------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------|
|  Ø2 |  |  Ø4 |
| 30 s                                                                                   |  | 20 s                                                                                   |
|  Ø6 |  |  Ø8 |
| 30 s                                                                                   |  | 20 s                                                                                   |



# Lanes, Volumes, Timings

## 7: Route 31 & Lakeshore Road (East)

07/05/2022

|                            |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | WBT                                                                               | WBR                                                                               | SBL                                                                               | SBR                                                                               |
| Lane Configurations        |                                                                                   |  |  |                                                                                   |  |                                                                                   |
| Traffic Volume (vph)       | 55                                                                                | 452                                                                               | 404                                                                               | 87                                                                                | 88                                                                                | 33                                                                                |
| Future Volume (vph)        | 55                                                                                | 452                                                                               | 404                                                                               | 87                                                                                | 88                                                                                | 33                                                                                |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Satd. Flow (prot)          | 0                                                                                 | 1876                                                                              | 1836                                                                              | 0                                                                                 | 1748                                                                              | 0                                                                                 |
| Flt Permitted              |                                                                                   | 0.997                                                                             |                                                                                   |                                                                                   | 0.965                                                                             |                                                                                   |
| Satd. Flow (perm)          | 0                                                                                 | 1876                                                                              | 1836                                                                              | 0                                                                                 | 1748                                                                              | 0                                                                                 |
| Link Speed (mph)           |                                                                                   | 55                                                                                | 55                                                                                |                                                                                   | 35                                                                                |                                                                                   |
| Link Distance (ft)         |                                                                                   | 516                                                                               | 592                                                                               |                                                                                   | 420                                                                               |                                                                                   |
| Travel Time (s)            |                                                                                   | 6.4                                                                               | 7.3                                                                               |                                                                                   | 8.2                                                                               |                                                                                   |
| Peak Hour Factor           | 0.89                                                                              | 0.89                                                                              | 0.88                                                                              | 0.88                                                                              | 0.83                                                                              | 0.83                                                                              |
| Growth Factor              | 50%                                                                               | 100%                                                                              | 100%                                                                              | 100%                                                                              | 100%                                                                              | 100%                                                                              |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)      | 0                                                                                 | 539                                                                               | 558                                                                               | 0                                                                                 | 146                                                                               | 0                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment             | Left                                                                              | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Right                                                                             |
| Median Width(ft)           |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 12                                                                                |                                                                                   |
| Link Offset(ft)            |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 |                                                                                   |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                | 16                                                                                |                                                                                   | 16                                                                                |                                                                                   |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (mph)        | 15                                                                                |                                                                                   |                                                                                   | 9                                                                                 | 15                                                                                | 9                                                                                 |
| Sign Control               |                                                                                   | Free                                                                              | Free                                                                              |                                                                                   | Stop                                                                              |                                                                                   |

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 59.9%

ICU Level of Service B

Analysis Period (min) 15



HCM 6th TWSC  
7: Route 31 & Lakeshore Road (East)

07/05/2022

Intersection

| Int Delay, s/veh         | 3.9  |                                                                                   |                                                                                   |      |                                                                                   |      |
|--------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|------|
| Movement                 | EBL  | EBT                                                                               | WBT                                                                               | WBR  | SBL                                                                               | SBR  |
| Lane Configurations      |      |  |  |      |  |      |
| Traffic Vol, veh/h       | 55   | 452                                                                               | 404                                                                               | 87   | 88                                                                                | 33   |
| Future Vol, veh/h        | 55   | 452                                                                               | 404                                                                               | 87   | 88                                                                                | 33   |
| Conflicting Peds, #/hr   | 0    | 0                                                                                 | 0                                                                                 | 0    | 0                                                                                 | 0    |
| Sign Control             | Free | Free                                                                              | Free                                                                              | Free | Stop                                                                              | Stop |
| RT Channelized           | -    | None                                                                              | -                                                                                 | None | -                                                                                 | None |
| Storage Length           | -    | -                                                                                 | -                                                                                 | -    | 0                                                                                 | -    |
| Veh in Median Storage, # | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Grade, %                 | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Peak Hour Factor         | 89   | 89                                                                                | 88                                                                                | 88   | 83                                                                                | 83   |
| Heavy Vehicles, %        | 1    | 1                                                                                 | 1                                                                                 | 1    | 1                                                                                 | 1    |
| Mvmt Flow                | 31   | 508                                                                               | 459                                                                               | 99   | 106                                                                               | 40   |

| Major/Minor          | Major1 | Major2 | Minor2 |
|----------------------|--------|--------|--------|
| Conflicting Flow All | 558    | 0      | 0      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |
| Critical Hdwy        | 4.11   | -      | -      |
| Critical Hdwy Stg 1  | -      | -      | -      |
| Critical Hdwy Stg 2  | -      | -      | -      |
| Follow-up Hdwy       | 2.209  | -      | -      |
| Pot Cap-1 Maneuver   | 1018   | -      | -      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |
| Platoon blocked, %   | -      | -      | -      |
| Mov Cap-1 Maneuver   | 1018   | -      | -      |
| Mov Cap-2 Maneuver   | -      | -      | -      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |

| Approach             | EB  | WB | SB   |
|----------------------|-----|----|------|
| HCM Control Delay, s | 0.5 | 0  | 31.4 |
| HCM LOS              |     |    | D    |

| Minor Lane/Major Mvmt | EBL  | EBT | WBT | WBR | SBLn1 |
|-----------------------|------|-----|-----|-----|-------|
| Capacity (veh/h)      | 1018 | -   | -   | -   | 278   |
| HCM Lane V/C Ratio    | 0.03 | -   | -   | -   | 0.524 |
| HCM Control Delay (s) | 8.6  | 0   | -   | -   | 31.4  |
| HCM Lane LOS          | A    | A   | -   | -   | D     |
| HCM 95th %tile Q(veh) | 0.1  | -   | -   | -   | 2.8   |



# Lanes, Volumes, Timings

## 8: Thompson Road & South Bay Road

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |  |  |                                                                                   |  |  |                                                                                   |                                                                                    |  |  |                                                                                     |  |  |
| Traffic Volume (vph)       | 216                                                                               | 382                                                                               | 3                                                                                 | 178                                                                               | 343                                                                               | 16                                                                                | 8                                                                                  | 151                                                                                 | 213                                                                                 | 16                                                                                  | 155                                                                                 | 175                                                                                 |
| Future Volume (vph)        | 216                                                                               | 382                                                                               | 3                                                                                 | 178                                                                               | 343                                                                               | 16                                                                                | 8                                                                                  | 151                                                                                 | 213                                                                                 | 16                                                                                  | 155                                                                                 | 175                                                                                 |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                               | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 300                                                                               |                                                                                   | 0                                                                                 | 250                                                                               |                                                                                   | 0                                                                                 | 0                                                                                  |                                                                                     | 210                                                                                 | 0                                                                                   |                                                                                     | 600                                                                                 |
| Storage Lanes              | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                  |                                                                                     | 1                                                                                   | 0                                                                                   |                                                                                     | 1                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                 |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 1787                                                                              | 1879                                                                              | 0                                                                                 | 1787                                                                              | 1868                                                                              | 0                                                                                 | 0                                                                                  | 1877                                                                                | 1599                                                                                | 0                                                                                   | 1872                                                                                | 1599                                                                                |
| Flt Permitted              | 0.315                                                                             |                                                                                   |                                                                                   | 0.319                                                                             |                                                                                   |                                                                                   |                                                                                    | 0.981                                                                               |                                                                                     |                                                                                     | 0.960                                                                               |                                                                                     |
| Satd. Flow (perm)          | 593                                                                               | 1879                                                                              | 0                                                                                 | 600                                                                               | 1868                                                                              | 0                                                                                 | 0                                                                                  | 1845                                                                                | 1599                                                                                | 0                                                                                   | 1806                                                                                | 1599                                                                                |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                    |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   | 1                                                                                 |                                                                                   |                                                                                   | 3                                                                                 |                                                                                   |                                                                                    |                                                                                     | 218                                                                                 |                                                                                     |                                                                                     | 190                                                                                 |
| Link Speed (mph)           |                                                                                   | 45                                                                                |                                                                                   |                                                                                   | 45                                                                                |                                                                                   |                                                                                    | 45                                                                                  |                                                                                     |                                                                                     | 45                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 1324                                                                              |                                                                                   |                                                                                   | 1155                                                                              |                                                                                   |                                                                                    | 1095                                                                                |                                                                                     |                                                                                     | 1033                                                                                |                                                                                     |
| Travel Time (s)            |                                                                                   | 20.1                                                                              |                                                                                   |                                                                                   | 17.5                                                                              |                                                                                   |                                                                                    | 16.6                                                                                |                                                                                     |                                                                                     | 15.7                                                                                |                                                                                     |
| Peak Hour Factor           | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.89                                                                              | 0.89                                                                              | 0.89                                                                              | 0.86                                                                               | 0.86                                                                                | 0.86                                                                                | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                 | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 232                                                                               | 414                                                                               | 0                                                                                 | 200                                                                               | 403                                                                               | 0                                                                                 | 0                                                                                  | 185                                                                                 | 248                                                                                 | 0                                                                                   | 185                                                                                 | 190                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                 | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                               | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                    | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                    | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                    | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                 |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Turn Type                  | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                             | NA                                                                                |                                                                                   | Perm                                                                               | NA                                                                                  | pm+ov                                                                               | Perm                                                                                | NA                                                                                  | pm+ov                                                                               |
| Protected Phases           | 7                                                                                 | 4                                                                                 |                                                                                   | 3                                                                                 | 8                                                                                 |                                                                                   |                                                                                    | 2                                                                                   | 3                                                                                   |                                                                                     | 6                                                                                   | 7                                                                                   |
| Permitted Phases           | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                  |                                                                                     | 2                                                                                   | 6                                                                                   |                                                                                     | 6                                                                                   |
| Detector Phase             | 7                                                                                 | 4                                                                                 |                                                                                   | 3                                                                                 | 8                                                                                 |                                                                                   | 2                                                                                  | 2                                                                                   | 3                                                                                   | 6                                                                                   | 6                                                                                   | 7                                                                                   |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        | 5.0                                                                               | 10.0                                                                              |                                                                                   | 5.0                                                                               | 5.0                                                                               |                                                                                   | 10.0                                                                               | 10.0                                                                                | 5.0                                                                                 | 10.0                                                                                | 10.0                                                                                | 5.0                                                                                 |
| Minimum Split (s)          | 12.0                                                                              | 17.0                                                                              |                                                                                   | 12.0                                                                              | 12.0                                                                              |                                                                                   | 16.5                                                                               | 16.5                                                                                | 12.0                                                                                | 16.5                                                                                | 16.5                                                                                | 12.0                                                                                |
| Total Split (s)            | 18.0                                                                              | 32.0                                                                              |                                                                                   | 18.0                                                                              | 32.0                                                                              |                                                                                   | 25.0                                                                               | 25.0                                                                                | 18.0                                                                                | 25.0                                                                                | 25.0                                                                                | 18.0                                                                                |
| Total Split (%)            | 24.0%                                                                             | 42.7%                                                                             |                                                                                   | 24.0%                                                                             | 42.7%                                                                             |                                                                                   | 33.3%                                                                              | 33.3%                                                                               | 24.0%                                                                               | 33.3%                                                                               | 33.3%                                                                               | 24.0%                                                                               |
| Maximum Green (s)          | 11.0                                                                              | 25.0                                                                              |                                                                                   | 11.0                                                                              | 25.0                                                                              |                                                                                   | 18.5                                                                               | 18.5                                                                                | 11.0                                                                                | 18.5                                                                                | 18.5                                                                                | 11.0                                                                                |
| Yellow Time (s)            | 4.0                                                                               | 4.0                                                                               |                                                                                   | 4.0                                                                               | 4.0                                                                               |                                                                                   | 3.5                                                                                | 3.5                                                                                 | 4.0                                                                                 | 3.5                                                                                 | 3.5                                                                                 | 4.0                                                                                 |
| All-Red Time (s)           | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                                | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |
| Lost Time Adjust (s)       | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                    | 0.0                                                                                 | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |
| Total Lost Time (s)        | 7.0                                                                               | 7.0                                                                               |                                                                                   | 7.0                                                                               | 7.0                                                                               |                                                                                   |                                                                                    | 6.5                                                                                 | 7.0                                                                                 |                                                                                     | 6.5                                                                                 | 7.0                                                                                 |
| Lead/Lag                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                              | Lag                                                                               |                                                                                   |                                                                                    |                                                                                     | Lead                                                                                |                                                                                     |                                                                                     | Lead                                                                                |
| Lead-Lag Optimize?         | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                               | Yes                                                                               |                                                                                   |                                                                                    |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Vehicle Extension (s)      | 3.0                                                                               | 2.0                                                                               |                                                                                   | 3.0                                                                               | 2.0                                                                               |                                                                                   | 3.0                                                                                | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |
| Recall Mode                | None                                                                              | Min                                                                               |                                                                                   | None                                                                              | Min                                                                               |                                                                                   | Max                                                                                | Max                                                                                 | None                                                                                | Max                                                                                 | Max                                                                                 | None                                                                                |
| Act Effct Green (s)        | 28.6                                                                              | 18.8                                                                              |                                                                                   | 27.7                                                                              | 18.4                                                                              |                                                                                   |                                                                                    | 18.7                                                                                | 34.6                                                                                |                                                                                     | 18.7                                                                                | 35.0                                                                                |
| Actuated g/C Ratio         | 0.42                                                                              | 0.28                                                                              |                                                                                   | 0.41                                                                              | 0.27                                                                              |                                                                                   |                                                                                    | 0.28                                                                                | 0.51                                                                                |                                                                                     | 0.28                                                                                | 0.52                                                                                |
| v/c Ratio                  | 0.55                                                                              | 0.79                                                                              |                                                                                   | 0.49                                                                              | 0.79                                                                              |                                                                                   |                                                                                    | 0.36                                                                                | 0.27                                                                                |                                                                                     | 0.37                                                                                | 0.21                                                                                |
| Control Delay              | 14.3                                                                              | 34.3                                                                              |                                                                                   | 13.2                                                                              | 34.6                                                                              |                                                                                   |                                                                                    | 24.0                                                                                | 3.3                                                                                 |                                                                                     | 24.2                                                                                | 2.5                                                                                 |



# Lanes, Volumes, Timings

## 8: Thompson Road & South Bay Road

07/05/2022

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Queue Delay             | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                                 | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |
| Total Delay             | 14.3                                                                              | 34.3                                                                              |                                                                                   | 13.2                                                                              | 34.6                                                                              |                                                                                   |                                                                                   | 24.0                                                                                | 3.3                                                                                 |                                                                                     | 24.2                                                                                | 2.5                                                                                 |
| LOS                     | B                                                                                 | C                                                                                 |                                                                                   | B                                                                                 | C                                                                                 |                                                                                   |                                                                                   | C                                                                                   | A                                                                                   |                                                                                     | C                                                                                   | A                                                                                   |
| Approach Delay          |                                                                                   | 27.1                                                                              |                                                                                   |                                                                                   | 27.5                                                                              |                                                                                   |                                                                                   | 12.1                                                                                |                                                                                     |                                                                                     | 13.2                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | B                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 48                                                                                | 157                                                                               |                                                                                   | 41                                                                                | 154                                                                               |                                                                                   |                                                                                   | 62                                                                                  | 6                                                                                   |                                                                                     | 63                                                                                  | 0                                                                                   |
| Queue Length 95th (ft)  | 83                                                                                | 256                                                                               |                                                                                   | 71                                                                                | 244                                                                               |                                                                                   |                                                                                   | 122                                                                                 | 38                                                                                  |                                                                                     | 129                                                                                 | 30                                                                                  |
| Internal Link Dist (ft) |                                                                                   | 1244                                                                              |                                                                                   |                                                                                   | 1075                                                                              |                                                                                   |                                                                                   | 1015                                                                                |                                                                                     |                                                                                     | 953                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 300                                                                               |                                                                                   |                                                                                   | 250                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 210                                                                                 |                                                                                     |                                                                                     | 600                                                                                 |
| Base Capacity (vph)     | 458                                                                               | 702                                                                               |                                                                                   | 457                                                                               | 699                                                                               |                                                                                   |                                                                                   | 510                                                                                 | 960                                                                                 |                                                                                     | 499                                                                                 | 947                                                                                 |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   | 0                                                                                   |
| Reduced v/c Ratio       | 0.51                                                                              | 0.59                                                                              |                                                                                   | 0.44                                                                              | 0.58                                                                              |                                                                                   |                                                                                   | 0.36                                                                                | 0.26                                                                                |                                                                                     | 0.37                                                                                | 0.20                                                                                |

### Intersection Summary

Area Type: Other  
 Cycle Length: 75  
 Actuated Cycle Length: 67.5  
 Natural Cycle: 60  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.79  
 Intersection Signal Delay: 21.5  
 Intersection Capacity Utilization 69.5%  
 Analysis Period (min) 15

Intersection LOS: C  
 ICU Level of Service C

### Splits and Phases: 8: Thompson Road & South Bay Road

|                                                                                        |                                                                                        |                                                                                        |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
|  Ø2 |  Ø3 |  Ø4 |
| 25 s                                                                                   | 18 s                                                                                   | 32 s                                                                                   |
|  Ø6 |  Ø7 |  Ø8 |
| 25 s                                                                                   | 18 s                                                                                   | 32 s                                                                                   |



# Lanes, Volumes, Timings

## 9: Lakeshore Road & Mudd Mill Road

07/05/2022

|                            |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | WBT                                                                               | WBR                                                                               | SBL                                                                               | SBR                                                                               |
| Lane Configurations        |                                                                                   |  |  |                                                                                   |  |                                                                                   |
| Traffic Volume (vph)       | 44                                                                                | 323                                                                               | 251                                                                               | 133                                                                               | 143                                                                               | 34                                                                                |
| Future Volume (vph)        | 44                                                                                | 323                                                                               | 251                                                                               | 133                                                                               | 143                                                                               | 34                                                                                |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Satd. Flow (prot)          | 0                                                                                 | 1870                                                                              | 1793                                                                              | 0                                                                                 | 1761                                                                              | 0                                                                                 |
| Flt Permitted              |                                                                                   | 0.994                                                                             |                                                                                   |                                                                                   | 0.961                                                                             |                                                                                   |
| Satd. Flow (perm)          | 0                                                                                 | 1870                                                                              | 1793                                                                              | 0                                                                                 | 1761                                                                              | 0                                                                                 |
| Link Speed (mph)           |                                                                                   | 35                                                                                | 35                                                                                |                                                                                   | 35                                                                                |                                                                                   |
| Link Distance (ft)         |                                                                                   | 753                                                                               | 701                                                                               |                                                                                   | 545                                                                               |                                                                                   |
| Travel Time (s)            |                                                                                   | 14.7                                                                              | 13.7                                                                              |                                                                                   | 10.6                                                                              |                                                                                   |
| Peak Hour Factor           | 0.82                                                                              | 0.82                                                                              | 0.97                                                                              | 0.97                                                                              | 0.85                                                                              | 0.85                                                                              |
| Heavy Vehicles (%)         | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)      | 0                                                                                 | 448                                                                               | 396                                                                               | 0                                                                                 | 208                                                                               | 0                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment             | Left                                                                              | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Right                                                                             |
| Median Width(ft)           |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 12                                                                                |                                                                                   |
| Link Offset(ft)            |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 |                                                                                   |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                | 16                                                                                |                                                                                   | 16                                                                                |                                                                                   |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (mph)        | 15                                                                                |                                                                                   |                                                                                   | 9                                                                                 | 15                                                                                | 9                                                                                 |
| Sign Control               |                                                                                   | Free                                                                              | Free                                                                              |                                                                                   | Stop                                                                              |                                                                                   |

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 60.7%

ICU Level of Service B

Analysis Period (min) 15



HCM 6th TWSC  
9: Lakeshore Road & Mudd Mill Road

07/05/2022

Intersection

Int Delay, s/veh 6

| Movement                 | EBL  | EBT                                                                               | WBT                                                                               | WBR  | SBL                                                                               | SBR  |
|--------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|------|
| Lane Configurations      |      |  |  |      |  |      |
| Traffic Vol, veh/h       | 44   | 323                                                                               | 251                                                                               | 133  | 143                                                                               | 34   |
| Future Vol, veh/h        | 44   | 323                                                                               | 251                                                                               | 133  | 143                                                                               | 34   |
| Conflicting Peds, #/hr   | 0    | 0                                                                                 | 0                                                                                 | 0    | 0                                                                                 | 0    |
| Sign Control             | Free | Free                                                                              | Free                                                                              | Free | Stop                                                                              | Stop |
| RT Channelized           | -    | None                                                                              | -                                                                                 | None | -                                                                                 | None |
| Storage Length           | -    | -                                                                                 | -                                                                                 | -    | 0                                                                                 | -    |
| Veh in Median Storage, # | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Grade, %                 | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Peak Hour Factor         | 82   | 82                                                                                | 97                                                                                | 97   | 85                                                                                | 85   |
| Heavy Vehicles, %        | 1    | 1                                                                                 | 1                                                                                 | 1    | 1                                                                                 | 1    |
| Mvmt Flow                | 54   | 394                                                                               | 259                                                                               | 137  | 168                                                                               | 40   |

| Major/Minor          | Major1 | Major2 | Minor2 |
|----------------------|--------|--------|--------|
| Conflicting Flow All | 396    | 0      | 0      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |
| Critical Hdwy        | 4.11   | -      | -      |
| Critical Hdwy Stg 1  | -      | -      | -      |
| Critical Hdwy Stg 2  | -      | -      | -      |
| Follow-up Hdwy       | 2.209  | -      | -      |
| Pot Cap-1 Maneuver   | 1168   | -      | -      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |
| Platoon blocked, %   | -      | -      | -      |
| Mov Cap-1 Maneuver   | 1168   | -      | -      |
| Mov Cap-2 Maneuver   | -      | -      | -      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |

| Approach             | EB | WB | SB |
|----------------------|----|----|----|
| HCM Control Delay, s | 1  | 0  | 28 |
| HCM LOS              |    |    | D  |

| Minor Lane/Major Mvmt | EBL   | EBT | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-----|-------|
| Capacity (veh/h)      | 1168  | -   | -   | -   | 359   |
| HCM Lane V/C Ratio    | 0.046 | -   | -   | -   | 0.58  |
| HCM Control Delay (s) | 8.2   | 0   | -   | -   | 28    |
| HCM Lane LOS          | A     | A   | -   | -   | D     |
| HCM 95th %tile Q(veh) | 0.1   | -   | -   | -   | 3.5   |



Lanes, Volumes, Timings  
10: South Bay Road & Lakeshore Road

07/05/2022

|                            |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                 | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations        |  |                                                                                   |                                                                                   |  |  |                                                                                   |
| Traffic Volume (vph)       | 296                                                                               | 7                                                                                 | 292                                                                               | 250                                                                               | 13                                                                                | 308                                                                               |
| Future Volume (vph)        | 296                                                                               | 7                                                                                 | 292                                                                               | 250                                                                               | 13                                                                                | 308                                                                               |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Satd. Flow (prot)          | 1839                                                                              | 0                                                                                 | 0                                                                                 | 1730                                                                              | 1586                                                                              | 0                                                                                 |
| Flt Permitted              |                                                                                   |                                                                                   |                                                                                   | 0.974                                                                             | 0.998                                                                             |                                                                                   |
| Satd. Flow (perm)          | 1839                                                                              | 0                                                                                 | 0                                                                                 | 1730                                                                              | 1586                                                                              | 0                                                                                 |
| Link Speed (mph)           | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                | 45                                                                                |                                                                                   |
| Link Distance (ft)         | 538                                                                               |                                                                                   |                                                                                   | 300                                                                               | 501                                                                               |                                                                                   |
| Travel Time (s)            | 10.5                                                                              |                                                                                   |                                                                                   | 5.8                                                                               | 7.6                                                                               |                                                                                   |
| Confl. Peds. (#/hr)        |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 2                                                                                 |
| Peak Hour Factor           | 0.93                                                                              | 0.93                                                                              | 0.89                                                                              | 0.89                                                                              | 0.92                                                                              | 0.92                                                                              |
| Heavy Vehicles (%)         | 3%                                                                                | 3%                                                                                | 7%                                                                                | 7%                                                                                | 4%                                                                                | 4%                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)      | 326                                                                               | 0                                                                                 | 0                                                                                 | 609                                                                               | 349                                                                               | 0                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment             | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Left                                                                              | Right                                                                             |
| Median Width(ft)           | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 | 12                                                                                |                                                                                   |
| Link Offset(ft)            | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   |
| Crosswalk Width(ft)        | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                | 16                                                                                |                                                                                   |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (mph)        |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 15                                                                                | 9                                                                                 |
| Sign Control               | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              | Stop                                                                              |                                                                                   |

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 75.3%

ICU Level of Service D

Analysis Period (min) 15



HCM 6th TWSC  
10: South Bay Road & Lakeshore Road

07/05/2022

Intersection

| Int Delay, s/veh         | 7.5                                                                               |      |      |                                                                                   |                                                                                   |      |
|--------------------------|-----------------------------------------------------------------------------------|------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|
| Movement                 | EBT                                                                               | EBR  | WBL  | WBT                                                                               | NBL                                                                               | NBR  |
| Lane Configurations      |  |      |      |  |  |      |
| Traffic Vol, veh/h       | 296                                                                               | 7    | 292  | 250                                                                               | 13                                                                                | 308  |
| Future Vol, veh/h        | 296                                                                               | 7    | 292  | 250                                                                               | 13                                                                                | 308  |
| Conflicting Peds, #/hr   | 0                                                                                 | 0    | 0    | 0                                                                                 | 0                                                                                 | 2    |
| Sign Control             | Free                                                                              | Free | Free | Free                                                                              | Stop                                                                              | Stop |
| RT Channelized           | -                                                                                 | None | -    | None                                                                              | -                                                                                 | None |
| Storage Length           | -                                                                                 | -    | -    | -                                                                                 | 0                                                                                 | -    |
| Veh in Median Storage, # | 0                                                                                 | -    | -    | 0                                                                                 | 0                                                                                 | -    |
| Grade, %                 | 0                                                                                 | -    | -    | 0                                                                                 | 0                                                                                 | -    |
| Peak Hour Factor         | 93                                                                                | 93   | 89   | 89                                                                                | 92                                                                                | 92   |
| Heavy Vehicles, %        | 3                                                                                 | 3    | 7    | 7                                                                                 | 4                                                                                 | 4    |
| Mvmt Flow                | 318                                                                               | 8    | 328  | 281                                                                               | 14                                                                                | 335  |

| Major/Minor          | Major1 | Major2 | Minor1 |
|----------------------|--------|--------|--------|
| Conflicting Flow All | 0      | 0      | 326    |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |
| Critical Hdwy        | -      | -      | 4.17   |
| Critical Hdwy Stg 1  | -      | -      | -      |
| Critical Hdwy Stg 2  | -      | -      | -      |
| Follow-up Hdwy       | -      | -      | 2.263  |
| Pot Cap-1 Maneuver   | -      | -      | 1206   |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |
| Platoon blocked, %   | -      | -      | -      |
| Mov Cap-1 Maneuver   | -      | -      | 1206   |
| Mov Cap-2 Maneuver   | -      | -      | -      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |

| Approach             | EB | WB  | NB   |
|----------------------|----|-----|------|
| HCM Control Delay, s | 0  | 4.9 | 19.1 |
| HCM LOS              |    |     | C    |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL   | WBT |
|-----------------------|-------|-----|-----|-------|-----|
| Capacity (veh/h)      | 599   | -   | -   | 1206  | -   |
| HCM Lane V/C Ratio    | 0.582 | -   | -   | 0.272 | -   |
| HCM Control Delay (s) | 19.1  | -   | -   | 9.1   | 0   |
| HCM Lane LOS          | C     | -   | -   | A     | A   |
| HCM 95th %tile Q(veh) | 3.7   | -   | -   | 1.1   | -   |



# Lanes, Volumes, Timings

## 11: Cicero Center Road/Van Antwerp Drive & Lakeshore Road

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (vph)       | 1                                                                                 | 287                                                                               | 47                                                                                | 7                                                                                 | 238                                                                               | 3                                                                                 | 53                                                                                | 1                                                                                   | 17                                                                                  | 0                                                                                   | 1                                                                                   | 5                                                                                   |
| Future Volume (vph)        | 1                                                                                 | 287                                                                               | 47                                                                                | 7                                                                                 | 238                                                                               | 3                                                                                 | 53                                                                                | 1                                                                                   | 17                                                                                  | 0                                                                                   | 1                                                                                   | 5                                                                                   |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Satd. Flow (prot)          | 0                                                                                 | 1827                                                                              | 0                                                                                 | 0                                                                                 | 1857                                                                              | 0                                                                                 | 0                                                                                 | 1738                                                                                | 0                                                                                   | 0                                                                                   | 1652                                                                                | 0                                                                                   |
| Flt Permitted              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.999                                                                             |                                                                                   |                                                                                   | 0.964                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Satd. Flow (perm)          | 0                                                                                 | 1827                                                                              | 0                                                                                 | 0                                                                                 | 1857                                                                              | 0                                                                                 | 0                                                                                 | 1738                                                                                | 0                                                                                   | 0                                                                                   | 1652                                                                                | 0                                                                                   |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 55                                                                                  |                                                                                     |                                                                                     | 30                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 557                                                                               |                                                                                   |                                                                                   | 543                                                                               |                                                                                   |                                                                                   | 388                                                                                 |                                                                                     |                                                                                     | 295                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 10.9                                                                              |                                                                                   |                                                                                   | 10.6                                                                              |                                                                                   |                                                                                   | 4.8                                                                                 |                                                                                     |                                                                                     | 6.7                                                                                 |                                                                                     |
| Confl. Peds. (#/hr)        | 1                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1                                                                                 | 1                                                                                 |                                                                                     | 1                                                                                   | 1                                                                                   |                                                                                     | 1                                                                                   |
| Peak Hour Factor           | 0.89                                                                              | 0.89                                                                              | 0.89                                                                              | 0.85                                                                              | 0.85                                                                              | 0.85                                                                              | 0.63                                                                              | 0.63                                                                                | 0.63                                                                                | 0.50                                                                                | 0.50                                                                                | 0.50                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 0                                                                                 | 376                                                                               | 0                                                                                 | 0                                                                                 | 292                                                                               | 0                                                                                 | 0                                                                                 | 113                                                                                 | 0                                                                                   | 0                                                                                   | 12                                                                                  | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Sign Control               |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Stop                                                                                |                                                                                     |                                                                                     | Stop                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 35.9%

ICU Level of Service A

Analysis Period (min) 15



Intersection

Int Delay, s/veh 2.6

| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations      |      | ↔    |      |      | ↔    |      |      | ↔    |      |      | ↔    |      |
| Traffic Vol, veh/h       | 1    | 287  | 47   | 7    | 238  | 3    | 53   | 1    | 17   | 0    | 1    | 5    |
| Future Vol, veh/h        | 1    | 287  | 47   | 7    | 238  | 3    | 53   | 1    | 17   | 0    | 1    | 5    |
| Conflicting Peds, #/hr   | 1    | 0    | 0    | 0    | 0    | 1    | 1    | 0    | 1    | 1    | 0    | 1    |
| Sign Control             | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -    | None |
| Storage Length           | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 89   | 89   | 89   | 85   | 85   | 85   | 63   | 63   | 63   | 50   | 50   | 50   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 1    | 322  | 53   | 8    | 280  | 4    | 84   | 2    | 27   | 0    | 2    | 10   |

| Major/Minor          | Major1 |   | Major2 |       | Minor1 |   | Minor2 |       |       |       |       |       |
|----------------------|--------|---|--------|-------|--------|---|--------|-------|-------|-------|-------|-------|
| Conflicting Flow All | 285    | 0 | 0      | 375   | 0      | 0 | 656    | 652   | 350   | 665   | 676   | 284   |
| Stage 1              | -      | - | -      | -     | -      | - | 351    | 351   | -     | 299   | 299   | -     |
| Stage 2              | -      | - | -      | -     | -      | - | 305    | 301   | -     | 366   | 377   | -     |
| Critical Hdwy        | 4.12   | - | -      | 4.12  | -      | - | 7.12   | 6.52  | 6.22  | 7.12  | 6.52  | 6.22  |
| Critical Hdwy Stg 1  | -      | - | -      | -     | -      | - | 6.12   | 5.52  | -     | 6.12  | 5.52  | -     |
| Critical Hdwy Stg 2  | -      | - | -      | -     | -      | - | 6.12   | 5.52  | -     | 6.12  | 5.52  | -     |
| Follow-up Hdwy       | 2.218  | - | -      | 2.218 | -      | - | 3.518  | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver   | 1277   | - | -      | 1183  | -      | - | 379    | 387   | 693   | 374   | 375   | 755   |
| Stage 1              | -      | - | -      | -     | -      | - | 666    | 632   | -     | 710   | 666   | -     |
| Stage 2              | -      | - | -      | -     | -      | - | 705    | 665   | -     | 653   | 616   | -     |
| Platoon blocked, %   | -      | - | -      | -     | -      | - | -      | -     | -     | -     | -     | -     |
| Mov Cap-1 Maneuver   | 1276   | - | -      | 1183  | -      | - | 370    | 383   | 692   | 355   | 371   | 754   |
| Mov Cap-2 Maneuver   | -      | - | -      | -     | -      | - | 370    | 383   | -     | 355   | 371   | -     |
| Stage 1              | -      | - | -      | -     | -      | - | 665    | 631   | -     | 709   | 660   | -     |
| Stage 2              | -      | - | -      | -     | -      | - | 687    | 659   | -     | 625   | 615   | -     |

| Approach             | EB | WB  | NB   | SB   |
|----------------------|----|-----|------|------|
| HCM Control Delay, s | 0  | 0.2 | 16.8 | 10.7 |
| HCM LOS              |    |     | C    | B    |

| Minor Lane/Major Mvmt | NBLn1 | EBL   | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 417   | 1276  | -   | -   | 1183  | -   | -   | 643   |
| HCM Lane V/C Ratio    | 0.27  | 0.001 | -   | -   | 0.007 | -   | -   | 0.019 |
| HCM Control Delay (s) | 16.8  | 7.8   | 0   | -   | 8.1   | 0   | -   | 10.7  |
| HCM Lane LOS          | C     | A     | A   | -   | A     | A   | -   | B     |
| HCM 95th %tile Q(veh) | 1.1   | 0     | -   | -   | 0     | -   | -   | 0.1   |



# Lanes, Volumes, Timings

## 12: Lakeshore Road & West Site Access

07/05/2022

|                            |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | WBT                                                                               | WBR                                                                               | SBL                                                                               | SBR                                                                               |
| Lane Configurations        |                                                                                   |  |  |                                                                                   |  |                                                                                   |
| Traffic Volume (vph)       | 15                                                                                | 589                                                                               | 527                                                                               | 5                                                                                 | 4                                                                                 | 15                                                                                |
| Future Volume (vph)        | 15                                                                                | 589                                                                               | 527                                                                               | 5                                                                                 | 4                                                                                 | 15                                                                                |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              |
| Satd. Flow (prot)          | 0                                                                                 | 1844                                                                              | 1775                                                                              | 0                                                                                 | 1648                                                                              | 0                                                                                 |
| Flt Permitted              |                                                                                   | 0.999                                                                             |                                                                                   |                                                                                   | 0.991                                                                             |                                                                                   |
| Satd. Flow (perm)          | 0                                                                                 | 1844                                                                              | 1775                                                                              | 0                                                                                 | 1648                                                                              | 0                                                                                 |
| Link Speed (mph)           |                                                                                   | 35                                                                                | 35                                                                                |                                                                                   | 30                                                                                |                                                                                   |
| Link Distance (ft)         |                                                                                   | 300                                                                               | 359                                                                               |                                                                                   | 354                                                                               |                                                                                   |
| Travel Time (s)            |                                                                                   | 5.8                                                                               | 7.0                                                                               |                                                                                   | 8.0                                                                               |                                                                                   |
| Peak Hour Factor           | 0.93                                                                              | 0.93                                                                              | 0.89                                                                              | 0.89                                                                              | 0.90                                                                              | 0.90                                                                              |
| Heavy Vehicles (%)         | 1%                                                                                | 3%                                                                                | 7%                                                                                | 1%                                                                                | 1%                                                                                | 2%                                                                                |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Group Flow (vph)      | 0                                                                                 | 649                                                                               | 598                                                                               | 0                                                                                 | 21                                                                                | 0                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                |
| Lane Alignment             | Left                                                                              | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Right                                                                             |
| Median Width(ft)           |                                                                                   | 12                                                                                | 12                                                                                |                                                                                   | 12                                                                                |                                                                                   |
| Link Offset(ft)            |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 |                                                                                   |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                | 16                                                                                |                                                                                   | 16                                                                                |                                                                                   |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Turning Speed (mph)        | 15                                                                                |                                                                                   |                                                                                   | 9                                                                                 | 15                                                                                | 9                                                                                 |
| Sign Control               |                                                                                   | Free                                                                              | Free                                                                              |                                                                                   | Stop                                                                              |                                                                                   |

### Intersection Summary

Area Type: Other  
Control Type: Unsignalized  
Intersection Capacity Utilization 53.1%  
Analysis Period (min) 15

ICU Level of Service A



HCM 6th TWSC  
12: Lakeshore Road & West Site Access

07/05/2022

Intersection

Int Delay, s/veh 0.4

| Movement                 | EBL  | EBT                                                                               | WBT                                                                               | WBR  | SBL                                                                               | SBR  |
|--------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|------|
| Lane Configurations      |      |  |  |      |  |      |
| Traffic Vol, veh/h       | 15   | 589                                                                               | 527                                                                               | 5    | 4                                                                                 | 15   |
| Future Vol, veh/h        | 15   | 589                                                                               | 527                                                                               | 5    | 4                                                                                 | 15   |
| Conflicting Peds, #/hr   | 0    | 0                                                                                 | 0                                                                                 | 0    | 0                                                                                 | 0    |
| Sign Control             | Free | Free                                                                              | Free                                                                              | Free | Stop                                                                              | Stop |
| RT Channelized           | -    | None                                                                              | -                                                                                 | None | -                                                                                 | None |
| Storage Length           | -    | -                                                                                 | -                                                                                 | -    | 0                                                                                 | -    |
| Veh in Median Storage, # | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Grade, %                 | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Peak Hour Factor         | 93   | 93                                                                                | 89                                                                                | 89   | 90                                                                                | 90   |
| Heavy Vehicles, %        | 1    | 3                                                                                 | 7                                                                                 | 1    | 1                                                                                 | 2    |
| Mvmt Flow                | 16   | 633                                                                               | 592                                                                               | 6    | 4                                                                                 | 17   |

| Major/Minor          | Major1 | Major2 | Minor2        |
|----------------------|--------|--------|---------------|
| Conflicting Flow All | 598    | 0      | 0 1260 595    |
| Stage 1              | -      | -      | - 595 -       |
| Stage 2              | -      | -      | - 665 -       |
| Critical Hdwy        | 4.11   | -      | - 6.41 6.22   |
| Critical Hdwy Stg 1  | -      | -      | - 5.41 -      |
| Critical Hdwy Stg 2  | -      | -      | - 5.41 -      |
| Follow-up Hdwy       | 2.209  | -      | - 3.509 3.318 |
| Pot Cap-1 Maneuver   | 984    | -      | - 189 504     |
| Stage 1              | -      | -      | - 553 -       |
| Stage 2              | -      | -      | - 513 -       |
| Platoon blocked, %   | -      | -      | -             |
| Mov Cap-1 Maneuver   | 984    | -      | - 184 504     |
| Mov Cap-2 Maneuver   | -      | -      | - 184 -       |
| Stage 1              | -      | -      | - 539 -       |
| Stage 2              | -      | -      | - 513 -       |

| Approach             | EB  | WB | SB   |
|----------------------|-----|----|------|
| HCM Control Delay, s | 0.2 | 0  | 15.3 |
| HCM LOS              |     |    | C    |

| Minor Lane/Major Mvmt | EBL   | EBT | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-----|-------|
| Capacity (veh/h)      | 984   | -   | -   | -   | 369   |
| HCM Lane V/C Ratio    | 0.016 | -   | -   | -   | 0.057 |
| HCM Control Delay (s) | 8.7   | 0   | -   | -   | 15.3  |
| HCM Lane LOS          | A     | A   | -   | -   | C     |
| HCM 95th %tile Q(veh) | 0.1   | -   | -   | -   | 0.2   |



# Lanes, Volumes, Timings

## 13: Middle Site Access & Lakeshore Road

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |  |  |                                                                                   |  |  |                                                                                   |                                                                                   |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (vph)       | 58                                                                                | 515                                                                               | 20                                                                                | 2                                                                                 | 459                                                                               | 12                                                                                | 18                                                                                | 0                                                                                   | 2                                                                                   | 12                                                                                  | 0                                                                                   | 55                                                                                  |
| Future Volume (vph)        | 58                                                                                | 515                                                                               | 20                                                                                | 2                                                                                 | 459                                                                               | 12                                                                                | 18                                                                                | 0                                                                                   | 2                                                                                   | 12                                                                                  | 0                                                                                   | 55                                                                                  |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 100                                                                               |                                                                                   | 0                                                                                 | 100                                                                               |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   |
| Storage Lanes              | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 1787                                                                              | 1835                                                                              | 0                                                                                 | 1787                                                                              | 1771                                                                              | 0                                                                                 | 0                                                                                 | 1779                                                                                | 0                                                                                   | 0                                                                                   | 1657                                                                                | 0                                                                                   |
| Flt Permitted              | 0.950                                                                             |                                                                                   |                                                                                   | 0.950                                                                             |                                                                                   |                                                                                   |                                                                                   | 0.957                                                                               |                                                                                     |                                                                                     | 0.991                                                                               |                                                                                     |
| Satd. Flow (perm)          | 1787                                                                              | 1835                                                                              | 0                                                                                 | 1787                                                                              | 1771                                                                              | 0                                                                                 | 0                                                                                 | 1779                                                                                | 0                                                                                   | 0                                                                                   | 1657                                                                                | 0                                                                                   |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 30                                                                                  |                                                                                     |                                                                                     | 30                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 359                                                                               |                                                                                   |                                                                                   | 475                                                                               |                                                                                   |                                                                                   | 333                                                                                 |                                                                                     |                                                                                     | 341                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 7.0                                                                               |                                                                                   |                                                                                   | 9.3                                                                               |                                                                                   |                                                                                   | 7.6                                                                                 |                                                                                     |                                                                                     | 7.8                                                                                 |                                                                                     |
| Peak Hour Factor           | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.89                                                                              | 0.89                                                                              | 0.89                                                                              | 0.90                                                                              | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                |
| Heavy Vehicles (%)         | 1%                                                                                | 3%                                                                                | 1%                                                                                | 1%                                                                                | 7%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 62                                                                                | 576                                                                               | 0                                                                                 | 2                                                                                 | 529                                                                               | 0                                                                                 | 0                                                                                 | 22                                                                                  | 0                                                                                   | 0                                                                                   | 74                                                                                  | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Sign Control               |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Stop                                                                                |                                                                                     |                                                                                     | Stop                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 45.8%

ICU Level of Service A

Analysis Period (min) 15



HCM 6th TWSC  
13: Middle Site Access & Lakeshore Road

07/05/2022

Intersection

Int Delay, s/veh 2

| Movement                 | EBL                                                                               | EBT                                                                               | EBR  | WBL                                                                               | WBT                                                                               | WBR  | NBL  | NBT                                                                               | NBR  | SBL  | SBT                                                                                 | SBR  |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|------|-----------------------------------------------------------------------------------|------|------|-------------------------------------------------------------------------------------|------|
| Lane Configurations      |  |  |      |  |  |      |      |  |      |      |  |      |
| Traffic Vol, veh/h       | 58                                                                                | 515                                                                               | 20   | 2                                                                                 | 459                                                                               | 12   | 18   | 0                                                                                 | 2    | 12   | 0                                                                                   | 55   |
| Future Vol, veh/h        | 58                                                                                | 515                                                                               | 20   | 2                                                                                 | 459                                                                               | 12   | 18   | 0                                                                                 | 2    | 12   | 0                                                                                   | 55   |
| Conflicting Peds, #/hr   | 0                                                                                 | 0                                                                                 | 0    | 0                                                                                 | 0                                                                                 | 0    | 0    | 0                                                                                 | 0    | 0    | 0                                                                                   | 0    |
| Sign Control             | Free                                                                              | Free                                                                              | Free | Free                                                                              | Free                                                                              | Free | Stop | Stop                                                                              | Stop | Stop | Stop                                                                                | Stop |
| RT Channelized           | -                                                                                 | -                                                                                 | None | -                                                                                 | -                                                                                 | None | -    | -                                                                                 | None | -    | -                                                                                   | None |
| Storage Length           | 100                                                                               | -                                                                                 | -    | 100                                                                               | -                                                                                 | -    | -    | -                                                                                 | -    | -    | -                                                                                   | -    |
| Veh in Median Storage, # | -                                                                                 | 0                                                                                 | -    | -                                                                                 | 0                                                                                 | -    | -    | 0                                                                                 | -    | -    | 0                                                                                   | -    |
| Grade, %                 | -                                                                                 | 0                                                                                 | -    | -                                                                                 | 0                                                                                 | -    | -    | 0                                                                                 | -    | -    | 0                                                                                   | -    |
| Peak Hour Factor         | 93                                                                                | 93                                                                                | 93   | 89                                                                                | 89                                                                                | 89   | 90   | 90                                                                                | 90   | 90   | 90                                                                                  | 90   |
| Heavy Vehicles, %        | 1                                                                                 | 3                                                                                 | 1    | 1                                                                                 | 7                                                                                 | 1    | 1    | 1                                                                                 | 1    | 1    | 1                                                                                   | 1    |
| Mvmt Flow                | 62                                                                                | 554                                                                               | 22   | 2                                                                                 | 516                                                                               | 13   | 20   | 0                                                                                 | 2    | 13   | 0                                                                                   | 61   |

| Major/Minor          | Major1 |   | Major2 |       | Minor1 |   | Minor2 |       |       |       |       |       |
|----------------------|--------|---|--------|-------|--------|---|--------|-------|-------|-------|-------|-------|
| Conflicting Flow All | 529    | 0 | 0      | 576   | 0      | 0 | 1246   | 1222  | 565   | 1217  | 1227  | 523   |
| Stage 1              | -      | - | -      | -     | -      | - | 689    | 689   | -     | 527   | 527   | -     |
| Stage 2              | -      | - | -      | -     | -      | - | 557    | 533   | -     | 690   | 700   | -     |
| Critical Hdwy        | 4.11   | - | -      | 4.11  | -      | - | 7.11   | 6.51  | 6.21  | 7.11  | 6.51  | 6.21  |
| Critical Hdwy Stg 1  | -      | - | -      | -     | -      | - | 6.11   | 5.51  | -     | 6.11  | 5.51  | -     |
| Critical Hdwy Stg 2  | -      | - | -      | -     | -      | - | 6.11   | 5.51  | -     | 6.11  | 5.51  | -     |
| Follow-up Hdwy       | 2.209  | - | -      | 2.209 | -      | - | 3.509  | 4.009 | 3.309 | 3.509 | 4.009 | 3.309 |
| Pot Cap-1 Maneuver   | 1043   | - | -      | 1002  | -      | - | 151    | 180   | 526   | 158   | 179   | 556   |
| Stage 1              | -      | - | -      | -     | -      | - | 437    | 448   | -     | 536   | 530   | -     |
| Stage 2              | -      | - | -      | -     | -      | - | 517    | 527   | -     | 437   | 443   | -     |
| Platoon blocked, %   | -      | - | -      | -     | -      | - | -      | -     | -     | -     | -     | -     |
| Mov Cap-1 Maneuver   | 1043   | - | -      | 1002  | -      | - | 128    | 169   | 526   | 150   | 168   | 556   |
| Mov Cap-2 Maneuver   | -      | - | -      | -     | -      | - | 128    | 169   | -     | 150   | 168   | -     |
| Stage 1              | -      | - | -      | -     | -      | - | 411    | 422   | -     | 504   | 529   | -     |
| Stage 2              | -      | - | -      | -     | -      | - | 459    | 526   | -     | 409   | 417   | -     |

| Approach             | EB  |  | WB |  | NB |  | SB |
|----------------------|-----|--|----|--|----|--|----|
| HCM Control Delay, s | 0.8 |  | 0  |  | 36 |  | 17 |
| HCM LOS              |     |  |    |  | E  |  | C  |

| Minor Lane/Major Mvmt | NBLn1 | EBL  | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 138   | 1043 | -   | -   | 1002  | -   | -   | 374   |
| HCM Lane V/C Ratio    | 0.161 | 0.06 | -   | -   | 0.002 | -   | -   | 0.199 |
| HCM Control Delay (s) | 36    | 8.7  | -   | -   | 8.6   | -   | -   | 17    |
| HCM Lane LOS          | E     | A    | -   | -   | A     | -   | -   | C     |
| HCM 95th %tile Q(veh) | 0.6   | 0.2  | -   | -   | 0     | -   | -   | 0.7   |



# Lanes, Volumes, Timings

## 14: East Site Access & Lakeshore Road

07/05/2022

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |  |  |                                                                                   |  |  |                                                                                   |                                                                                   |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (vph)       | 161                                                                               | 290                                                                               | 78                                                                                | 10                                                                                | 250                                                                               | 36                                                                                | 70                                                                                | 0                                                                                   | 9                                                                                   | 36                                                                                  | 0                                                                                   | 153                                                                                 |
| Future Volume (vph)        | 161                                                                               | 290                                                                               | 78                                                                                | 10                                                                                | 250                                                                               | 36                                                                                | 70                                                                                | 0                                                                                   | 9                                                                                   | 36                                                                                  | 0                                                                                   | 153                                                                                 |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 100                                                                               |                                                                                   | 0                                                                                 | 100                                                                               |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   |
| Storage Lanes              | 1                                                                                 |                                                                                   | 0                                                                                 | 1                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                     | 0                                                                                   | 0                                                                                   |                                                                                     | 0                                                                                   |
| Taper Length (ft)          | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                   |                                                                                   | 75                                                                                |                                                                                     |                                                                                     | 75                                                                                  |                                                                                     |                                                                                     |
| Satd. Flow (prot)          | 1787                                                                              | 1793                                                                              | 0                                                                                 | 1787                                                                              | 1754                                                                              | 0                                                                                 | 0                                                                                 | 1775                                                                                | 0                                                                                   | 0                                                                                   | 1661                                                                                | 0                                                                                   |
| Flt Permitted              | 0.950                                                                             |                                                                                   |                                                                                   | 0.950                                                                             |                                                                                   |                                                                                   |                                                                                   | 0.958                                                                               |                                                                                     |                                                                                     | 0.991                                                                               |                                                                                     |
| Satd. Flow (perm)          | 1787                                                                              | 1793                                                                              | 0                                                                                 | 1787                                                                              | 1754                                                                              | 0                                                                                 | 0                                                                                 | 1775                                                                                | 0                                                                                   | 0                                                                                   | 1661                                                                                | 0                                                                                   |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 30                                                                                  |                                                                                     |                                                                                     | 30                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 475                                                                               |                                                                                   |                                                                                   | 621                                                                               |                                                                                   |                                                                                   | 334                                                                                 |                                                                                     |                                                                                     | 326                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 9.3                                                                               |                                                                                   |                                                                                   | 12.1                                                                              |                                                                                   |                                                                                   | 7.6                                                                                 |                                                                                     |                                                                                     | 7.4                                                                                 |                                                                                     |
| Peak Hour Factor           | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.89                                                                              | 0.89                                                                              | 0.89                                                                              | 0.90                                                                              | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                |
| Heavy Vehicles (%)         | 1%                                                                                | 3%                                                                                | 1%                                                                                | 1%                                                                                | 7%                                                                                | 1%                                                                                | 1%                                                                                | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  | 1%                                                                                  |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 173                                                                               | 396                                                                               | 0                                                                                 | 11                                                                                | 321                                                                               | 0                                                                                 | 0                                                                                 | 88                                                                                  | 0                                                                                   | 0                                                                                   | 210                                                                                 | 0                                                                                   |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 12                                                                                |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Sign Control               |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Stop                                                                                |                                                                                     |                                                                                     | Stop                                                                                |                                                                                     |

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 49.8%

ICU Level of Service A

Analysis Period (min) 15



HCM 6th TWSC  
14: East Site Access & Lakeshore Road

07/05/2022

Intersection

|                          |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |      |      |                                                                                   |      |      |                                                                                     |      |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|------|-----------------------------------------------------------------------------------|------|------|-------------------------------------------------------------------------------------|------|
| Int Delay, s/veh         | 9.3                                                                               |                                                                                   |      |                                                                                   |                                                                                   |      |      |                                                                                   |      |      |                                                                                     |      |
| Movement                 | EBL                                                                               | EBT                                                                               | EBR  | WBL                                                                               | WBT                                                                               | WBR  | NBL  | NBT                                                                               | NBR  | SBL  | SBT                                                                                 | SBR  |
| Lane Configurations      |  |  |      |  |  |      |      |  |      |      |  |      |
| Traffic Vol, veh/h       | 161                                                                               | 290                                                                               | 78   | 10                                                                                | 250                                                                               | 36   | 70   | 0                                                                                 | 9    | 36   | 0                                                                                   | 153  |
| Future Vol, veh/h        | 161                                                                               | 290                                                                               | 78   | 10                                                                                | 250                                                                               | 36   | 70   | 0                                                                                 | 9    | 36   | 0                                                                                   | 153  |
| Conflicting Peds, #/hr   | 0                                                                                 | 0                                                                                 | 0    | 0                                                                                 | 0                                                                                 | 0    | 0    | 0                                                                                 | 0    | 0    | 0                                                                                   | 0    |
| Sign Control             | Free                                                                              | Free                                                                              | Free | Free                                                                              | Free                                                                              | Free | Stop | Stop                                                                              | Stop | Stop | Stop                                                                                | Stop |
| RT Channelized           | -                                                                                 | -                                                                                 | None | -                                                                                 | -                                                                                 | None | -    | -                                                                                 | None | -    | -                                                                                   | None |
| Storage Length           | 100                                                                               | -                                                                                 | -    | 100                                                                               | -                                                                                 | -    | -    | -                                                                                 | -    | -    | -                                                                                   | -    |
| Veh in Median Storage, # | -                                                                                 | 0                                                                                 | -    | -                                                                                 | 0                                                                                 | -    | -    | 0                                                                                 | -    | -    | 0                                                                                   | -    |
| Grade, %                 | -                                                                                 | 0                                                                                 | -    | -                                                                                 | 0                                                                                 | -    | -    | 0                                                                                 | -    | -    | 0                                                                                   | -    |
| Peak Hour Factor         | 93                                                                                | 93                                                                                | 93   | 89                                                                                | 89                                                                                | 89   | 90   | 90                                                                                | 90   | 90   | 90                                                                                  | 90   |
| Heavy Vehicles, %        | 1                                                                                 | 3                                                                                 | 1    | 1                                                                                 | 7                                                                                 | 1    | 1    | 1                                                                                 | 1    | 1    | 1                                                                                   | 1    |
| Mvmt Flow                | 173                                                                               | 312                                                                               | 84   | 11                                                                                | 281                                                                               | 40   | 78   | 0                                                                                 | 10   | 40   | 0                                                                                   | 170  |

|                      |        |   |   |        |   |   |        |       |       |        |       |       |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |       |       | Minor2 |       |       |
| Conflicting Flow All | 321    | 0 | 0 | 396    | 0 | 0 | 1108   | 1043  | 354   | 1028   | 1065  | 301   |
| Stage 1              | -      | - | - | -      | - | - | 700    | 700   | -     | 323    | 323   | -     |
| Stage 2              | -      | - | - | -      | - | - | 408    | 343   | -     | 705    | 742   | -     |
| Critical Hdwy        | 4.11   | - | - | 4.11   | - | - | 7.11   | 6.51  | 6.21  | 7.11   | 6.51  | 6.21  |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | 6.11   | 5.51  | -     | 6.11   | 5.51  | -     |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | 6.11   | 5.51  | -     | 6.11   | 5.51  | -     |
| Follow-up Hdwy       | 2.209  | - | - | 2.209  | - | - | 3.509  | 4.009 | 3.309 | 3.509  | 4.009 | 3.309 |
| Pot Cap-1 Maneuver   | 1245   | - | - | 1168   | - | - | 188    | 230   | 692   | 213    | 223   | 741   |
| Stage 1              | -      | - | - | -      | - | - | 431    | 443   | -     | 691    | 652   | -     |
| Stage 2              | -      | - | - | -      | - | - | 622    | 639   | -     | 429    | 424   | -     |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | -     | -     | -      | -     | -     |
| Mov Cap-1 Maneuver   | 1245   | - | - | 1168   | - | - | 129    | 196   | 692   | 186    | 190   | 741   |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | 129    | 196   | -     | 186    | 190   | -     |
| Stage 1              | -      | - | - | -      | - | - | 371    | 381   | -     | 595    | 646   | -     |
| Stage 2              | -      | - | - | -      | - | - | 475    | 633   | -     | 364    | 365   | -     |

|                      |     |  |  |     |  |  |      |  |  |      |  |  |
|----------------------|-----|--|--|-----|--|--|------|--|--|------|--|--|
| Approach             | EB  |  |  | WB  |  |  | NB   |  |  | SB   |  |  |
| HCM Control Delay, s | 2.5 |  |  | 0.3 |  |  | 64.6 |  |  | 18.6 |  |  |
| HCM LOS              |     |  |  |     |  |  | F    |  |  | C    |  |  |

|                       |       |       |     |     |      |     |     |       |
|-----------------------|-------|-------|-----|-----|------|-----|-----|-------|
| Minor Lane/Major Mvmt | NBLn1 | EBL   | EBT | EBR | WBL  | WBT | WBR | SBLn1 |
| Capacity (veh/h)      | 142   | 1245  | -   | -   | 1168 | -   | -   | 472   |
| HCM Lane V/C Ratio    | 0.618 | 0.139 | -   | -   | 0.01 | -   | -   | 0.445 |
| HCM Control Delay (s) | 64.6  | 8.4   | -   | -   | 8.1  | -   | -   | 18.6  |
| HCM Lane LOS          | F     | A     | -   | -   | A    | -   | -   | C     |
| HCM 95th %tile Q(veh) | 3.3   | 0.5   | -   | -   | 0    | -   | -   | 2.2   |



## Great Northern Mall Redevelopment Town of Clay, NY

The proposed development site is the former Great Northern Mall with additional properties to the east and north in the Town of Clay, NY. The overall project site is significantly vacant with the exception of BJ's Wholesale Club, Central NY Gym, Dunk & Bright Furniture Store, Wilkins RV of Clay, Olive Garden, IHOP and a self-storage facility on the Great Northern site, and a number of single family residential homes on Route 31/Morgan Road. The proposed redevelopment will be a mixed use development with commercial, medical, residential and entertainment space.

# TRAFFIC IMPACT STUDY

Prepared in Accordance With  
Chapter 5 of the NYSDOT Highway Design Manual (HDM)

Prepared By:



**Consulting**

1396 White Bridge Road  
Chittenango, NY 13037

July 2024

**Note:** It is a violation of law for any person, unless they are acting under the direction of a licensed professional engineer, architect, landscape architect, or land surveyor, to alter an item in any way. If an item bearing the stamp of a licensed professional is altered, the altering engineer, architect, landscape architect, or land surveyor shall stamp the document and include the notation "altered by" followed by their signature, the date of such alteration, and a specific description of the alteration.



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## 1.0 Summary of Traffic Impacts

The following provides an overall breakdown of anticipated uses in the proposed redevelopment:

- General Retail – 523,360 SF
- Medical Office – 605,850 SF
- Ambulatory Care Facility – 150,000 SF
- Restaurants – 20,770 SF
- Grocery Store – 12,011 SF
- Community Center – 30,000 SF
- Apartments – 1,436 Units
- Hotels – 875 Rooms
- Senior Assisted Living – 200 Units
- Recreation / Entertainment – 67,890 SF

The existing access to the site includes two signalized driveways to NYS Route 31 and one unsignalized driveway to Morgan Road.

The proposed access to the development is as follows:

- Existing full access to NYS Route 31 opposite the Onondaga County Health Department
- Existing full access to Route 31 opposite Dunkin'/Lazy Boy
- Proposed full access to NYS Route 31 located 500 feet west of Morgan Road
- Proposed full access to Morgan Road located 750 feet north of NYS Route 31
- Existing full access to Morgan Road located 1,860 feet north of NYS Route 31 to remain
- Proposed full access to Verplank Road located 1,300 feet west of Morgan Road
- Proposed full access to Verplank Road located 1,800 feet west of Morgan Road
- Proposed full access to Verplank Road located 2,200 feet west of Morgan Road
- Proposed full access to Verplank Road located 2,500 feet west of Morgan Road

The proposed development includes a potential new interchange to NYS Route 481 at Verplank Road. It is noted that the attached concept plan (Appendix A) shows a traditional diamond interchange at Verplank Road, however, all ramps will need to be located on the north side of Verplank Road to optimize spacing from the NYS Route 31 interchange. Additionally, it is noted that the direct connection from the Great Northern Mall property to Route 481 northbound will not be allowed.

The traffic study evaluates the following six scenarios for the weekday morning, Friday evening, and Saturday midday peak travel hours.

- 2024 Existing Conditions
- 2034 Background Conditions – With Growth and Approved Developments
  - Include 300 Apts North of Kohls, Clay Marketplace, Delta Sonic, and Micron.
- 2034 Build Conditions
- 2034 Build Conditions with Verplank Road Interchange
- 2034 Build Conditions with Mitigation
- 2034 Build Conditions with Verplank Road Interchange – With Mitigation

A. A capacity analysis was performed per the NYSDOT Highway Design Manual Chapter 5. (Refer to Section 3 of this report):



The identified capacity deficiencies in the study area under the build conditions are notably the result of the combination of the projected Micron traffic and the Great Northern Mall redevelopment traffic.

To the west of the Route 481 interchange on NYS Route 31, the primary noted deficiency is a lack of capacity for the westbound through movement during the evening peak hour. The intersection of NYS Route 31 with Oswego Road is at or over capacity under the background conditions and is significantly impacted by the additional traffic generated by the proposed development. Some level of the recommended mitigation in this area should be contributed to by both developments.

The NYS Route 31/Route 481 interchange is at or over capacity under the background condition and is significantly impacted by the additional traffic generated by the Great Northern Mall redevelopment.

To the east of the site, there are significant failing operations at the Morgan Road intersections with NYS Route 31 and Verplank Road under the background conditions associated with the Micron development which continue to worsen with the additional site generated traffic. Some level of the recommended mitigation in this area should be contributed to both developments.

The following mitigation measures have been identified in the overall study area:

- NYS Route 31 @ Route 481 Interchange
  - o Reconstruct the interchange as a diverging diamond interchange (DDI) with signalized east/west crossings at the northbound and southbound ramps and signalized control at the left and right offramp movements both northbound and southbound.
    - Provide 3 through lanes eastbound from the Raymour & Flanigan intersection through the DDI, terminating the inside lane as the outside left turn lane into the Great Northern Mall west driveway.
    - Remove the existing eastbound right turn only lane at Marketfair North.
    - Provide 3 through lanes westbound from the Great Northern Mall east driveway through the DDI, terminating the third lane after the Delta Sonic/Texas Roadhouse signalized intersection.
    - Maintain the auxiliary westbound right turn lanes at Great North Mall West, Wegmans, Carling Road, Dell Center Drive, and Home Depot.
  - o Extend Pepperidge Way (Carling Road) to Soule Road opposite the Route 481 southbound onramp.
    - Convert Soule Road to southbound only between NYS Route 31 and the Route 481 southbound onramp.
    - Convert the existing northbound lane on Soule Road at the Route 481 southbound onramp to left turn only movements onto the roadway extension.
    - Construct a 200 foot northbound right lane on Soule Road at the Route 481 onramp with channelization and yield control.
    - Restrict the eastbound Pepperidge Way extension to right turn only movements onto Soule Road southbound.
    - Update the traffic signal at the Soule Road/Route 481 southbound onramp as necessary to accommodate the revised layout.
- NYS Route 31 @ Caughdenoy Road
  - o Add protected/permitted eastbound left turn phasing.



- o Construct a 200 foot southbound right turn lane.
- NYS Route 31 @ Henry Clay Boulevard
  - o Construct a 2<sup>nd</sup> northbound left turn lane.
- NYS Route 31 @ Morgan Road
  - o Construct second northbound and southbound through lanes through the intersection.
  - o Construct a 2<sup>nd</sup> northbound left turn lane.
  - o Construct a 250 foot southbound right turn lane.
  - o Construct a 250 foot westbound right turn lane.
- NYS Route 31 @ Proposed Access
  - o Restrict left turns exiting the site.
- NYS Route 31 @ Great Northern Mall East Access
  - o Construct a 300 westbound right turn lane.
  - o Construct a 2<sup>nd</sup> southbound left turn lane.
- NYS Route 31 @ Carling Road
  - o Construct a 250 foot northbound right turn lane.
- NYS Route 31 @ Oswego Road
  - o Construct a 250 foot eastbound right turn lane.
  - o Construct a 250 foot westbound right turn lane.
  - o Construct a 2<sup>nd</sup> northbound right turn lane.
- Verplank Road @ Caughdenoy Road
  - o Construct a 200 foot northbound left turn lane.
  - o Install a two phase traffic signal.
- Verplank Road @ Henry Clay Boulevard
  - o Install a two phase traffic signal.
- Verplank Road @ Morgan Road
  - o Construct a 200 foot northbound right turn lane.
  - o Construct a 200 foot westbound right turn lane.
  - o Install a two phase traffic signal.
- Morgan Road @ Existing Site Access
  - o Construct a 200 foot eastbound right turn lane.
  - o Install a two phase traffic signal.
- Verplank Road @ Route 481 Northbound Ramps (Verplank Interchange Only)
  - o Construct a 200 westbound right turn lane.

With the proposed modifications noted above, all traffic movements are generally projected to operate consistent with background traffic operations at both the signalized and unsignalized intersections in the study area. The Verplank interchange is a critical feature in the mitigation as it is projected to draw 400-500 vehicles away from the NYS Route 31 corridor during the peak hours.

- B. A crash analysis was performed per Highway Design Manual Chapter 5 on the following roadway segments in the study area:



- NYS Route 31 from Oswego Road to Caughdenoy Road
- Verplank Road from Oswego Road to Caughdenoy Road
- Oswego Road from Verplank Road to Soule Road
- Soule Road from Oswego Road to NYS Route 31
- Morgan Road from NYS Route 31 to Verplank Road
- Henry Clay Boulevard from NYS Route 31 to Verplank Road
- Caughdenoy Road from NYS Route 31 to Verplank Road

Refer to Section 4.0 of this report.

## 2.0 Operational Data – Existing Conditions

### 2.1 Travel Speeds

The posted speed limits in the study area around the site are 40 mph along NYS Route 31, 35 mph along Verplank Road, and 45 mph on Morgan Road. Existing average and 85<sup>th</sup> percentile operating speeds on Morgan Road and Verplank Road were collected using ATR counters. Average and 85<sup>th</sup> percentile speeds on NYS Route 31 were reviewed and calculated based on 50 spot speed measurements that were collected passing the proposed site driveway location under off-peak, free flow conditions. The posted speed limits and the off-peak 85<sup>th</sup> percentile speeds, determined based on NYSDOT Highway Design Manual Chapter 5, Section 5.2, are shown in the table below.

| <b><i>Exhibit 1<br/>Speed Data</i></b> |                                  |                            |                                               |
|----------------------------------------|----------------------------------|----------------------------|-----------------------------------------------|
| <b><i>Street Name</i></b>              | <b><i>Location</i></b>           | <b><i>Posted Speed</i></b> | <b><i>Operating Speed<br/>Spot Speeds</i></b> |
| <i>NYS Route 31</i>                    | <i>West of<br/>Morgan Road</i>   | <i>40 mph</i>              | <i>EB – 40.5 mph<br/>WB – 49.5 mph</i>        |
| <i>Morgan Road</i>                     | <i>North of<br/>NYS Route 31</i> | <i>45 mph</i>              | <i>NB – 49 mph<br/>SB – 49 mph</i>            |
| <i>Verplank Road</i>                   | <i>West of<br/>Morgan Road</i>   | <i>35 mph</i>              | <i>EB – 50 mph<br/>WB – 49 mph</i>            |

### 2.2 Driveway Sight Distance

Sight lines looking east/west along NYS Route 31, north/south along Morgan Road, and east/west along Verplank Road from the existing and proposed unsignalized driveways were collected for comparison to design standards in order to confirm that adequate sight lines are available for safe ingress and egress from the site.

The following table provides a summary of the recommended sight distances along NYS Route 31, Morgan Road, and Verplank Road from the AASHTO A Policy on Design of Highways and Streets as well as the available sight distances based on field measurements. Operating speeds of 50 mph were used on all three roadways in the review. Recommended sight distance for left turn movements were adjusted to account for the two additional lanes to be crossed when turning out onto NYS Route 31, and the one additional lane to be crossed when turning left out onto Morgan Road.



| Sight Distance Summary                                      |                 |                               |                                   |                            |
|-------------------------------------------------------------|-----------------|-------------------------------|-----------------------------------|----------------------------|
| Location                                                    | Operating Speed | Direction                     | AASHTO Recommended Sight Distance | Available Sight Distance   |
| Proposed Driveway @<br>NYS Route 31 - Turning Left Out      | 50 mph          | Looking Left<br>Looking Right | 625 feet<br>625 feet              | 900+ feet<br>900+ feet     |
| Proposed Driveway @<br>NYS Route 31 - Turning Right Out     | 50 mph          | Looking Left                  | 480 feet                          | 900+ feet                  |
| Proposed Driveway @<br>Morgan Road - Turning Left Out       | 50 mph          | Looking Left<br>Looking Right | 600 feet<br>600 feet              | 800+ feet<br>750+ feet     |
| Proposed Driveway @<br>Morgan Road - Turning Right Out      | 50 mph          | Looking Left                  | 480 feet                          | 800+ feet                  |
| Existing Driveway @<br>Morgan Road - Turning Left Out       | 50 mph          | Looking Left<br>Looking Right | 600 feet<br>600 feet              | 1,100+ feet<br>850+ feet   |
| Existing Driveway @<br>Morgan Road - Turning Right Out      | 50 mph          | Looking Left                  | 480 feet                          | 1,100+ feet                |
| Proposed Driveway #4 @<br>Verplank Road - Turning Left Out  | 50 mph          | Looking Left<br>Looking Right | 555 feet<br>555 feet              | 625 feet<br>1,300+ feet    |
| Proposed Driveway #4 @<br>Verplank Road - Turning Right Out | 50 mph          | Looking Left                  | 480 feet                          | 625 feet                   |
| Proposed Driveway #3 @<br>Verplank Road - Turning Left Out  | 50 mph          | Looking Left<br>Looking Right | 555 feet<br>555 feet              | 1,000+ feet<br>900+ feet   |
| Proposed Driveway #3 @<br>Verplank Road - Turning Right Out | 50 mph          | Looking Left                  | 480 feet                          | 1,000+ feet                |
| Proposed Driveway #2 @<br>Verplank Road - Turning Left Out  | 50 mph          | Looking Left<br>Looking Right | 555 feet<br>555 feet              | 1,000+ feet<br>650+ feet   |
| Proposed Driveway #2 @<br>Verplank Road - Turning Right Out | 50 mph          | Looking Left                  | 480 feet                          | 1,000+ feet                |
| Proposed Driveway #1 @<br>Verplank Road - Turning Left Out  | 50 mph          | Looking Left<br>Looking Right | 555 feet<br>555 feet              | 1,000+ feet<br>1,000+ feet |
| Proposed Driveway #1 @<br>Verplank Road - Turning Right Out | 50 mph          | Looking Left                  | 480 feet                          | 1,000+ feet                |

There are more than adequate sight distances looking along NYS Route 31, Morgan Road, and Verplank Road from all of the existing and proposed site driveways. There are no concerns with sight distances associated with safety for ingress and egress from the site driveways.

### 3.0 Capacity Analysis

#### Capacity Analysis Overview



Capacity analyses performed in this report are consistent with the most recent version of the Highway Capacity Manual (HCM). The software used to perform this analysis is Synchro11.

The HCM quantifies the quality of traffic flow in terms of levels of service (LOS). There are six levels of service, with LOS A indicating very low levels of delays and LOS F indicating high levels of delays associated with congestion. These represent a qualitative measure of operational conditions within a traffic stream, and the perception of conditions by motorists and/or passengers. Levels of service and capacity for signalized intersections are calculated for each lane group (a lane group may be one or more movements), each intersection approach, and the intersection as a whole. The intersection level of service is merely a weighted average of the individual approaches and may not be considered a valid measure of the quality or acceptability of an intersection design since it can conceal poor operating conditions on individual approaches.

Levels of service at unsignalized intersections are only calculated for minor movements since the through movement on the major street is not affected by intersection traffic control. The level of service for signalized intersections and unsignalized intersections can be compared.

The corresponding level of service represents the congestion of the roadway.

#### LOS for Signalized Intersection

| Control Delay (s/veh) | LOS by Volume-to-Capacity Ratio (v/c) |          |
|-----------------------|---------------------------------------|----------|
|                       | v/c ≤1.0                              | v/c >1.0 |
| ≤10                   | A                                     | F        |
| >10-20                | B                                     | F        |
| >20-35                | C                                     | F        |
| >35-55                | D                                     | F        |
| >55-80                | E                                     | F        |
| >80                   | F                                     | F        |

#### LOS for Non-Signalized Intersections

| Control Delay (s/veh) | LOS by Volume-to-Capacity Ratio (v/c) |          |
|-----------------------|---------------------------------------|----------|
|                       | v/c ≤1.0                              | v/c >1.0 |
| ≤10                   | A                                     | F        |
| >10-15                | B                                     | F        |
| >15-25                | C                                     | F        |
| >25-35                | D                                     | F        |
| >35-50                | E                                     | F        |
| >50                   | F                                     | F        |

### 3.1 Existing Volumes

AADT traffic volumes on NYS Route 31, Morgan Road, and Verplank Road (2022) were obtained from the NYSDOT Traffic Data Viewer. New traffic turning movement counts were collected at the following 21 study area intersections on Thursday May 9<sup>th</sup>/16<sup>th</sup>, 2024 during the weekday morning peak travel period, Friday May 10<sup>th</sup>/17<sup>th</sup>, 2024 during the weekday evening peak travel period and Saturday May 11<sup>th</sup>/18<sup>th</sup>, 2024 during the midday peak travel periods.

- NYS Route 31 @ Caughdenoy Road
- NYS Route 31 @ Henry Clay Boulevard
- NYS Route 31 @ Morgan Road
- NYS Route 31 @ Site Access & Dunkin'/Lazy Boy Access
- NYS Route 31 @ Site Access & Onondaga County Health Department Access
- NYS Route 31 @ Marketfair North Access
- NYS Route 31 @ NYS Route 481 NB Ramps



- NYS Route 31 @ Soule Road/NYS Route 481 SB Offramp
- NYS Route 31 @ Raymour & Flanigan Access / Dicks Access
- NYS Route 31 @ Carling Road
- NYS Route 31 @ Dell Center Drive / Willow Field Elementary Access
- NYS Route 31 @ Lowes Access / Home Depot Access
- NYS Route 31 @ Davidson Ford Access
- NYS Route 31 @ Oswego Road
- Verplank Road @ Caughdenoy Road
- Verplank Road @ Henry Clay Road
- Verplank Road @ Morgan Road
- Verplank Road @ Oswego Road
- Soule Road @ I-481 SB Onramp
- Soule Road @ Oswego Road
- Morgan Road @ Existing Site Access

The traffic counts were collected during the weekday morning (7-9am), weekday evening (4-6pm), and Saturday midday (11am-1pm) peak travel periods to ensure that actual peak hours of the adjacent streets were captured. The traffic counts included separate heavy vehicle counts per direction and pedestrians. There was minor pedestrian activity during all of the traffic count periods. Based on the traffic counts collected, the peak hours were as follows:

- Morning peak hour - 7:15-8:15am
- Evening peak hour - 4:30-5:30pm
- Saturday peak hour – 12:00-1:00pm

The 2024 existing traffic volumes collected in May were compared to average historical counts taken from the NYSDOT Traffic Data Viewer Website. Specifically, the traffic volumes were compared to the following three NYSDOT counts:

- NYS Route 31 – East of the Great Northern Mall Driveways – October 25<sup>th</sup> & 26<sup>th</sup>, 2023
- Morgan Road – Between Morgan /Road and Verplank Road – August 16<sup>th</sup>, 17<sup>th</sup> & 18<sup>th</sup>, 2022
- Verplank Road – Between Gaskin Road to Morgan Road – July 14<sup>th</sup> & 15<sup>th</sup>, 2020

The comparison of the 2023 morning and evening peak hour volumes on NYS Route 31 to the historical 2023 count showed that the 2024 counts were 6% higher eastbound/7% higher westbound during the morning peak hour and 3% higher eastbound/3% higher westbound during the evening peak hour.

The comparison of the 2024 morning and evening peak hour volumes on Morgan Road to the historical 2022 count showed that the 2024 counts were 26% higher northbound/12% higher southbound during the morning peak hour and 6% higher northbound/1% higher southbound during the evening peak hour.

The comparison of the 2024 morning and evening peak hour volumes on Verplank Road to the historical 2020 count showed that the 2024 counts were 51% higher eastbound/34% higher westbound during the morning peak hour and 2% lower eastbound/4% higher westbound during the evening peak hour.

Given the 2024 traffic counts are all consistent with or higher than historical traffic volumes passing the site, there were no seasonal adjustments applied to the existing traffic volumes.

AADT traffic volumes on NYS Route 31, Morgan Road, and Verplank Road passing the site based on the Traffic Data Viewer and a 0.5% annual growth rate are shown in the table below.



| <b>Existing Traffic Volumes for Study Area (No Build)</b> |                            |            |                       |            |                          |            |                          |            |
|-----------------------------------------------------------|----------------------------|------------|-----------------------|------------|--------------------------|------------|--------------------------|------------|
| <b>STREET NAME</b>                                        | <b>EXISTING<br/>(2024)</b> |            | <b>ETC<br/>(2034)</b> |            | <b>ETC+20<br/>(2054)</b> |            | <b>ETC+30<br/>(2064)</b> |            |
|                                                           | <i>AADT</i>                | <i>DHV</i> | <i>AADT</i>           | <i>DHV</i> | <i>AADT</i>              | <i>DHV</i> | <i>AADT</i>              | <i>DHV</i> |
| <i>NYS Route 31 passing site</i>                          | 19,159                     | 1,979      | 20,107                | 2,077      | 22,004                   | 2,272      | 22,952                   | 2,370      |
| <i>Morgan Road passing site</i>                           | 7,812                      | 849        | 8,199                 | 891        | 8,973                    | 976        | 9,359                    | 1,018      |
| <i>Verplank Road passing site</i>                         | 1,428                      | 171        | 1,499                 | 180        | 1,640                    | 197        | 1,711                    | 205        |

NYS Route 31 carries approximately 600 vehicles eastbound/650 vehicles westbound passing the site during the morning peak hour, 1,050 vehicles eastbound/1,000 vehicles westbound passing the site during the evening peak hour, and 950 vehicles eastbound/1,000 vehicles westbound passing the site during the Saturday peak hour. Morgan Road carries approximately 130 vehicles northbound/420 vehicles southbound passing the site during the morning peak hour, 520 vehicles northbound/275 vehicles southbound passing the site during the evening peak hour, and 340 vehicles northbound/330 vehicles southbound passing the site during the Saturday peak hour. Verplank Road carries approximately 55 vehicles eastbound/55 vehicles westbound passing the site during the morning peak hour, 70 vehicles eastbound/100 vehicles westbound passing the site during the evening peak hour, and 70 vehicles eastbound/45 vehicles westbound passing the site during the Saturday peak hour.

The 2022 existing traffic volumes are shown in Figures 1-9 for the weekday morning, weekday evening, and Saturday peak hours respectively.

### 3.2 Growth and Approved Development Projections

The proposed development is assumed to be completed by 2034, therefore 2034 was used as the design year for this study. In order to fully understand the impacts of the development on the adjacent roadway system, analysis of the operations immediately before the project completion must first be reviewed.

As requested by NYSDOT, growth projections in the area were developed to mimic growth assumed in the Micron studies currently being completed. The Syracuse Metropolitan Council (SMTC) provided regional modeling link volumes for the study area for the following scenarios during the weekday morning and evening peak hours:

- 2020 Existing Traffic Volumes
- 2040 Future Base Conditions – With Micron and Future Interchange Improvements in Cicero
- 2040 Select Link Analysis - Micron Trips Generated
- 2040 Future Conditions – With Micron and Great Northern Mall Redevelopment
- 2040 Select Link Analysis – Great Northern Mall Redevelopment Trips Generated
- 2040 Future Conditions – With Micron/Great Northern Mall, With Verplank Interchange

Based on a review of the various model results, it was determined that the background growth on study area roadways generally ranged between 4%-9% over the 20 year projections. Therefore a positive value of +0.5% per year was chosen to grow the 2024 existing traffic volumes to the 2034 design year to maintain a conservative analysis of traffic operations in the area. The 2034 base traffic volumes with 10% total growth in traffic are shown in Figures 10-18 for the weekday morning, weekday evening, and Saturday midday peak hours.

In addition to unknown growth, specific approved trips are also included in the background traffic volume projections. The Town of Clay Planning Department was contacted and indicated that trips associated with a future 300 unit apartment development behind Kohls, the Clay Marketplace



development, the Delta Sonic development, and Micron development needed to be included in the projections.

Trips generated by the 300 unit apartment development were estimated using the ITE Trip Generation, 11<sup>th</sup> Edition, using Land Use 221 – Mid Rise Apartments. Traffic was assumed to 50% use the Home Depot access to NYS Route 31 and 50% use the Dell Center Drive access to NYS Route 31, and was then distributed through the study based on existing traffic patterns during each peak hour. The trips generated by the apartment development are shown in Figures 19-27 for the weekday morning, weekday evening, and Saturday midday peak hours.

Trips generated by the Clay Marketplace development were taken from the February 10<sup>th</sup>, 2021 traffic study completed by GTS Consulting and distributed through the study area based on existing traffic patterns during each peak hour. The trips generated by the Clay Marketplace development are shown in Figures 28-36 for the weekday morning, weekday evening, and Saturday midday peak hours.

Trips generated by the Delta Sonic development were taken from the August 17<sup>th</sup>, 2022 traffic study completed by SRF Associates and distributed through the study area based on existing traffic patterns during each peak hour. The trips generated by the Delta Sonic development are shown in Figures 37-45 for the weekday morning, weekday evening, and Saturday midday peak hours.

Trips generated by the Micron development during each peak hour were estimated using the SMTC 2040 select link volumes as well as data provided by Micron's consultants. Based on trip generation data provided by the consultants, the total employment headcount at Micron is estimated to be 9,768 people in 2034 and 9,774 people in 2040. Since the total employment is nearly identical between 2034 and 2040, the SMTC select link volumes for the weekday morning and weekday evening peak hour were used to distribute trips through the study area. While there was no specific data available for weekend operations, Micron personnel indicated that the Saturday operation would be similar to a typical weekday. Looking at hourly employment projections entering and exiting the Micron development, there are approximately 6,028 people entering/16 exiting during the morning peak hour, 16 people entering/6,028 people exiting during the evening peak hour, and 459 people entering/459 people exiting during the midday peak hour (12pm-1pm). Therefore 7.6% of the morning entering volumes and 7.6% of the evening exiting volumes were assumed during the Saturday midday peak hour. The trips generated by the Micron development are shown in Figures 46-54 for the weekday morning, weekday evening, and Saturday midday peak hours.

The trips generated by the apartments, the Clay Marketplace development, the Delta Sonic development, and Micron development were added to the 2034 base traffic volumes for the resultant 2034 background traffic volumes as shown in Figures 55-63.

### 3.3 Projected Trip Generation & Distribution

The proposed development includes:

- General Retail – 523,360 SF
- Medical Office – 605,850 SF
- Ambulatory Care Facility – 150,000 SF
- Restaurants – 20,770 SF
- Grocery Store – 12,011 SF
- Community Center – 30,000 SF
- Apartments – 1,436 Units
- Hotels – 875 Rooms
- Senior Assisted Living – 200 Units
- Recreation / Entertainment – 67,890 SF



Trips generated by the proposed development were estimated using the ITE Trip Generation, 11<sup>th</sup> Edition, which is the industry accepted standard for estimating traffic generated by new developments. The following land uses were used in the estimate:

- Land Use 820 – Shopping Center (>150K) – Used for general retail
- Land Use 720 – Medical-Dental Office Building – Used for medical office
- Land Use 630 – Clinic – Used for Ambulatory Care Facility
- Land Use 932 – High-Turnover (Sit-Down) Restaurant – Used for restaurants
- Land Use 850 – Supermarket – used for supermarket
- Land Use 495 – Recreational Community Center – Used for Community Center
- Land Use 221 - Multifamily Housing (Mid-Rise) – Used for apartments
- Land Use 310 – Hotel – used for hotels
- Land Use 254 – Assisted Living – Used for senior assisted living

Trips generated by the recreation/entertainment space was estimate using historical data for 3 Top Golf sites as well as distribution data for ITE Land Use 432 – Golf Driving Range.

A portion of the trips generated will be internal trips, such as residents visiting the retail areas or entertainment venues, or employees dining at on-site food establishments. These multi-use trips will not create additional trips on the adjacent roadways. There will also be transit users that either live, work or shop on the site. A 15% credit was applied to the total trip generation estimate to account for potential internal capture trips (multi-use) and a 5% credit was applied to account for potential transit trips.

A significant portion of the commercial traffic generated by the retail, restaurant, and supermarket uses will be drawn from traffic already passing the site and is referred to as pass-by trips. Pass-by trips are vehicles that are already traveling through the study area but will now stop at the development on their way to another destination, such as stopping on their way to or from work. Based on data from the ITE Trip Generation, the average pass-by trip percentage for Land Use 820 is 19% during the evening peak hour and for Land Use 821 is 31% during the Saturday peak hour. The average pass-by rate for a supermarket is 24% during the evening peak hour and 19% during the Saturday peak hour. The average pass-by rate for high-turnover restaurants is 43% during the evening peak hour. A 10% pass-by credit for the commercial uses was assumed during the morning peak hour, a 20% pass-by rate was assumed during the evening peak hour, and a 25% pass-by rate was assumed during the Saturday peak hour. The pass-by credits were applied after the multi-use/transit credits to avoid compounding credits. All trips associated with the medical office, ambulatory care, community center, apartments, and hotels were assumed to be new trips.

The following table summarizes the trip generation estimate for the proposed Great Northern Mall redevelopment in the Town of Clay, NY

| <b>Trip Generation Summary</b>          |                     |                |                     |                |                      |                |
|-----------------------------------------|---------------------|----------------|---------------------|----------------|----------------------|----------------|
|                                         | <b>Morning Peak</b> |                | <b>Evening Peak</b> |                | <b>Saturday Peak</b> |                |
|                                         | <b>Entering</b>     | <b>Exiting</b> | <b>Entering</b>     | <b>Exiting</b> | <b>Entering</b>      | <b>Exiting</b> |
| Retail – 523,360 SF                     | 273                 | 167            | 854                 | 925            | 1198                 | 1105           |
| Medical Office – 605,850 SF             | 1484                | 394            | 714                 | 1667           | 1043                 | 787            |
| Ambulatory Care – 150,000 SF            | 335                 | 78             | 166                 | 388            | 243                  | 183            |
| Restaurants – 20,770 SF                 | 110                 | 89             | 115                 | 73             | 118                  | 114            |
| Supermarket – 12,011 SF                 | 20                  | 14             | 54                  | 53             | 61                   | 60             |
| Community Center – 30,000 SF            | 38                  | 19             | 35                  | 40             | 17                   | 15             |
| Apartments – 1,436 SF                   | 122                 | 409            | 342                 | 218            | 286                  | 274            |
| Hotels – 875 rooms                      | 226                 | 177            | 263                 | 253            | 353                  | 277            |
| Senior Assisted Living – 200 Units      | 22                  | 14             | 19                  | 29             | 25                   | 29             |
| Recreation/Entertainment – 100 Tee Pos. | <u>36</u>           | <u>23</u>      | <u>83</u>           | <u>101</u>     | <u>82</u>            | <u>82</u>      |



|                                        |             |             |             |             |             |             |
|----------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| <b>Total Trips Generated</b>           | <b>2666</b> | <b>1384</b> | <b>2645</b> | <b>3747</b> | <b>3426</b> | <b>2926</b> |
| <i>Multi-Use Credit – 15%</i>          | <i>-400</i> | <i>-208</i> | <i>-397</i> | <i>-562</i> | <i>-514</i> | <i>-439</i> |
| <i>Transit Credit – 5%</i>             | <i>-134</i> | <i>-69</i>  | <i>-132</i> | <i>-188</i> | <i>-172</i> | <i>-146</i> |
| <b>Total Credits</b>                   | <b>-534</b> | <b>-277</b> | <b>-529</b> | <b>-780</b> | <b>-686</b> | <b>-585</b> |
| <b>Total Vehicular Trips Generated</b> | <b>2132</b> | <b>1107</b> | <b>2116</b> | <b>2997</b> | <b>2740</b> | <b>2341</b> |
| <b>Commercial Pass-by Trips</b>        |             |             |             |             |             |             |
| <b>AM – 10%</b>                        | <b>-27</b>  | <b>-27</b>  |             |             |             |             |
| <b>PM – 20%</b>                        |             |             | <b>-166</b> | <b>-166</b> |             |             |
| <b>Sat – 25%</b>                       |             |             |             |             | <b>-265</b> | <b>-265</b> |
| <b>Total New Trips Generated</b>       | <b>2105</b> | <b>1080</b> | <b>1950</b> | <b>2831</b> | <b>2475</b> | <b>2076</b> |

Many people expect that residential land uses will generate an average of 2 trips per unit during peak hours. The trip generation rates for standard residential land uses are generally less than 1 trip per unit for a number of reasons. The primary reason is that people work different times, some may leave for work at 6:30 in the morning while others may leave at 7:30 or 8:30. Subsequently, the arrival patterns home in the evening will also be staggered over multiple hours. Some people work evenings while others may stay at home or work from home. The rates contained in the ITE Trip Generation have been verified and provide an accurate representation of what may be expected for this development during the peak hours of the adjacent streets.

The detailed trip generation estimate is attached.

Based on SMTC regional models and existing traffic patterns/access to the adjacent expressways, the following distribution of new trips is expected:

- 20% will travel to/from the south on Route 481
- 16% will travel to/from the south on Morgan Road
- 15% will travel to/from the west on NYS Route 31
- 9% will travel to/from the east on NYS Route 31
- 8% will travel to/from the north on Morgan Road
- 6% will travel to/from the south on Soule Road
- 5% will travel to/from the north on Route 481
- 5% will travel to/from the south on Henry Clay Boulevard
- 5% will travel to/from the north on Caughdenoy Road
- 4% will travel to/from the north on Oswego Road
- 3% will travel to/from the north on Henry Clay Boulevard
- 2% will travel to/from the south on Oswego Road
- 2% will travel to/from the northwest via the Home Depot and Dell Center driveways
- 1% will travel to/from the south on Caughdenoy Road

Separate pass-by trip distributions were developed for each peak hour based on existing traffic patterns passing the site on NYS Route 31 and Morgan Road. The anticipated arrival/departure distributions are shown in Figures 64-72 for the weekday morning, weekday evening, and Saturday midday peak hours. The trips generated during each peak hour are shown in Figures 73-81, and the resultant full build traffic volumes expected when the development is complete are shown in Figures 82-90.

Based on the regional modeling completed by SMTC with and without the proposed interchange at Verplank Road, the 2034 build traffic volumes were redistributed with the potential interchange. The redistributed build traffic volumes with the Verplank Road interchange are shown in Figures 91-99.

### 3.4 Internal Circulation, Parking, Deliveries



Traffic will circulate throughout the development via the existing mall ring road and internal roadways connecting the various parking lots. There is no on-street parking planned within the development and there is no parking allowed on the adjacent streets in the study area.

### 3.5 Traffic Control Device Data

All of the study area intersections along NYS Route 31 are signalized, as well as the intersections of Oswego Road with Soule Road and Soule Road with the Route 481 southbound onramp.

The three Route 31 intersections with Caughdenoy Road (#3226), Henry Clay Boulevard (#3121), and Morgan Road (#3034) are all controlled by fully actuated, uncoordinated signals under NYSDOT jurisdiction.

The nine Route 31 intersections with the Great Northern Mall/Lazy Boy (#3238), Great Northern Mall/OC Health (#3237), Marketfair Plaza (#3252), Route 481 NB Ramps (#3236), Route 481 SB Ramp/Soule Road (#3235), Wegmans/Raymour & Flanigan (#3269), Carling Road (#3249), Dell Center Drive/Willowbrook Elementary (#3262), and Home Depot/Lowes(#3289) are all controlled by fully actuated coordinated traffic signals under NYSDOT jurisdiction.

The Route 31/Davidson driveway intersection (#3313) is controlled by a fully actuated uncoordinated traffic signal under NYSDOT jurisdiction.

The Route 31/Oswego Road intersection (#3032) is controlled by a fully actuated traffic signal which is coordinated with signals to the west under the jurisdiction of NYSDOT.

The Oswego Road/Soule Road intersection is controlled by a fully actuated uncoordinated traffic signal under the jurisdiction of Onondaga County.

The Soule Road/Route 481 Southbound Onramp intersection is controlled by a fully actuated uncoordinated signal under NYSDOT jurisdiction.

### 3.6 Capacity Analysis for Existing No-Build Condition

Capacity analysis of the existing traffic operations was completed using Synchro11.

The results of the capacity analysis indicate that all of the signalized intersections in the study area are operating at acceptable overall Levels of Service D or better during the morning, evening and Saturday peak hours with the exception of the NYS Route 31/Oswego Road intersection during the evening and Saturday peak hours (LOS E). All individual movements are operating at acceptable Level of Service D or better during the three peak hours with the following exceptions:

#### NYS Route 31 @ Henry Clay Boulevard

- NB Left/Through/Right – LOS E – morning peak (57 sec), LOS F – evening peak (81 sec)

#### NYS Route 31 @ Morgan Road

- WB Left – LOS E – evening peak (59 sec), LOS E – Saturday peak (58 sec)
- SB Through/Right – morning peak – LOS F (91 sec)

#### NYS Route 31 @ Marketfair North Plaza

- NB Left – LOS E – evening peak (59 sec)

#### NYS Route 31 @ Route 481 NB Ramps

- NB Left – LOS E – evening peak (66 sec)
- NB Through/Right – LOS E – evening peak (66 sec)



## NYS Route 31 @ Route 481 SB Ramps

- NB Left – LOS E – evening peak (56 sec)

## NYS Route 31 @ Wegmans/Raymour &amp; Flanigan

- EB Left – LOS E – Saturday peak (56 sec)
- WB Left – LOS E – evening peak (64 sec), LOS E – Saturday peak (63 sec)
- NB Left – LOS E – Saturday peak (59 sec)

## NYS Route 31 @ Carling Road

- EB Left – LOS E – evening peak (66 sec), LOS E – Saturday peak (63 sec)
- WB Left – LOS E – evening peak (67 sec), LOS E – Saturday peak (66 sec)
- NB Left – LOS E – evening peak (62 sec), LOS E – Saturday peak (59 sec)
- SB Left – LOS E – evening peak (58 sec), LOS E – Saturday peak (57 sec)

## NYS Route 31 @ Dell Center Drive/Willowfield Elementary Road

- EB Left – LOS E – evening peak (67 sec), LOS E – Saturday peak (73 sec)
- NB Left – LOS E – Saturday peak (63 sec)
- SB Left – LOS E – evening peak (58 sec)

## NYS Route 31 @ Home Depot/Lowes

- EB Left – LOS E – morning peak – (75 sec), LOS F – evening peak (81 sec),  
LOS F – Saturday peak (81 sec)
- WB Left – LOS E – morning peak – (67 sec), LOS F – evening peak (91 sec),  
LOS F – Saturday peak (131 sec)
- NB Left – LOS F – morning peak – (86 sec), LOS F – evening peak (103 sec),  
LOS F – Saturday peak (107 sec)
- NB Through – LOS E – Saturday peak (55 sec)
- SB Left – LOS E – evening peak (72 sec), LOS E – Saturday peak (75 sec)
- SB Left/Through – LOS E – evening peak (72 sec), LOS E – Saturday peak (74 sec)

## NYS Route 31 @ Oswego Road

- Overall Intersection – LOS E – evening peak (63 sec), LOS E – Saturday peak (66 sec)
- EB Left – LOS E – evening peak (61 sec)
- EB Through/Right – LOS F – evening peak (107 sec), LOS F – Saturday peak (102 sec)
- WB Left – LOS E – evening peak (71 sec), LOS F – Saturday peak (124 sec)
- SB Left – LOS E – morning peak (69 sec), LOS F – Saturday peak (92 sec)

## Soule Road @ Oswego Road

- EB Left – LOS E – evening peak (56 sec)
- NB Left – LOS E – evening peak (56 sec)
- SB Left – LOS E – evening peak (58 sec)

All unsignalized traffic movements in the study area are all operating at acceptable Levels of Service D or better during the three peak hours.

The detailed Level of Service & queue summary, and capacity analysis printouts, have been attached.

### 3.7 Capacity Analysis for Background No-Build Condition

Capacity analysis of the background traffic operations was completed using Synchro11.

Both NYSDOT and OCDOT confirmed that there are no planned highway improvements in the study area over the next ten years.



The following intersection/roadway improvements were included in the analysis associated with the approved background developments in the area:

#### Clay Market Place

- Added 250 foot northbound left turn lane and 150 southbound left turn lane on Henry Clay at NYS Route 31.
- Added protect/permitted north/south left turn phasing

#### Delta Sonic

- Added 200 foot eastbound left turn lane and 200 westbound left turn lane on NYS Route 31 at site access.
- Added traffic signal with signal coordination at site access/Texas Roadhouse driveway
- Added Home Depot/Lowes intersection to coordinated signal system.

#### Micron

- Widened NYS Route 31 to 5 lanes from Morgan Road through Caughdenoy Road
- Added 200 foot eastbound left turn lane and 200 foot westbound left turn lane at NYS Route 31/Caughdenoy Road.
- Added 200 foot eastbound right turn lane and 200 foot northbound right turn lane at NYS Route 31/Henry Clay Boulevard.

The results of the analysis show notable increases in delay throughout the study area primarily associated with the additional traffic from the Micron development. The following movements are noted to be operate at Levels of Service E or F under the background condition:

#### NYS Route 31 @ Henry Clay Boulevard

- NB Left/Through/Right – LOS E – morning peak (57 sec), LOS F – evening peak (81 sec)

#### NYS Route 31 @ Morgan Road

- Overall Intersection – LOS E – morning peak (64 sec), LOS F – evening peak (108 sec)
- EB Left – LOS F – morning peak (149 sec)
- EB Through – LOS E – morning peak (63 sec), LOS E – Saturday peak (58 sec)
- WB Left – LOS F – morning peak (103 sec), LOS F – evening peak (292 sec)  
LOS E Saturday peak (58 sec)
- NB Left – LOS F – morning peak (120 sec), LOS F – evening peak (194 sec)
- NB Right – LOS E – morning peak (58 sec)
- SB Through/Right – morning peak – LOS F (127 sec), evening peak – LOS F (200 sec)

#### NYS Route 31 @ Marketfair North Plaza

- WB Through – LOS E – evening peak (65 sec)
- NB Left – LOS E – evening peak (59 sec)

#### NYS Route 31 @ Route 481 NB Ramps

- EB Left – LOS E – evening peak (68 sec)
- WB Through – LOS F – evening peak (103 sec)
- NB Left – LOS E – Saturday peak (66 sec)
- NB Through/Right – LOS E – Saturday peak (66 sec)

#### NYS Route 31 @ Route 481 SB Ramps

- NB Left – LOS E – evening peak (70 sec)

#### NYS Route 31 @ Wegmans/Raymour & Flanigan

- EB Left – LOS E – evening peak (56 sec)
- WB Left – LOS E – evening peak (61 sec), LOS E – Saturday peak (62 sec)
- NB Left – LOS E – evening peak (59 sec), LOS E – Saturday peak (59 sec)



## NYS Route 31 @ Carling Road

- EB Left – LOS E – evening peak (60 sec), LOS E – Saturday peak (66 sec)
- WB Left – LOS E – evening peak (60 sec), LOS E – Saturday peak (63 sec)
- NB Left – LOS E – evening peak (63 sec), LOS E – Saturday peak (60 sec)
- SB Left – LOS E – evening peak (59 sec), LOS E – Saturday peak (58 sec)

## NYS Route 31 @ Dell Center Drive/Willowfield Elementary Road

- EB Left – LOS E – evening peak (63 sec), LOS E – Saturday peak (62 sec)
- NB Left – LOS E – Saturday peak (63 sec)
- SB Left – LOS E – evening peak (56 sec)

## NYS Route 31 @ Home Depot/Lowes

- EB Left – LOS E – evening peak (67 sec)
- WB Left – LOS E – evening peak (56 sec),
- NB Left – LOS E – evening peak (73 sec), LOS E – Saturday peak (79 sec)
- SB Left – LOS E – Saturday peak (59 sec)
- SB Left/Through – LOS E – Saturday peak (59 sec)

## NYS Route 31 @ Oswego Road

- Overall Intersection – LOS E – Saturday peak (63 sec)
- EB Through/Right – LOS E – Saturday peak (66 sec)
- WB Left – LOS F – Saturday peak (96 sec)
- NB Right – LOS E – evening peak (72 sec), LOS F – Saturday peak (111 sec)
- SB Left – LOS F – Saturday peak (115 sec)

## Verplank Road @ Caughdenoy Road

- EB Left/Right – LOS F – evening peak (213 sec)

## Verplank Road @ Morgan Road

- EB Left/Through/Right – LOS F – morning peak (68 sec), LOS F – evening peak (err)
- WB Left/Through/Right – LOS F – morning peak (60 sec), LOS F – evening peak (err),  
LOS E – Saturday peak (43)

## Soule Road @ Oswego Road

- EB Left – LOS E – evening peak (59 sec)
- NB Left – LOS E – evening peak (60 sec)
- SB Left – LOS E – evening peak (61 sec)

The detailed Level of Service & queue summary, and capacity analysis printouts, have been attached.

### 3.8 Capacity Analysis for Proposed Build Condition

Capacity analysis of the build traffic operations without and the Verplank Road interchange were completed with no improvements, other than the restriping NYS Route 31 and Morgan Road to include 150 left turn lanes at the proposed site driveways.

The following drops in Level of Service from the background conditions without the Verplank interchange and *with the Verplank interchange* are noted:

#### Build Conditions without/with Verplank Road Interchange



## NYS Route 31 @ Caughdenoy Road

- EB Left – LOS D to F/LOS D to F – evening peak (+315 sec/+317 sec)
- NB Left/Through/Right – LOS D to E/LOS D to E – morning peak (+18 sec/+13 sec),  
LOS D to E/LOS D to E – evening peak (+32 sec/+27 sec)

## NYS Route 31 @ Henry Clay Boulevard

- Overall Intersection – LOS D to E – morning peak (+19 sec)  
LOS D to E/LOS D to E – evening peak (+35 sec/+21 sec)
- EB Through/Right – LOS D to F/LOS D to E – morning peak (+32/+12sec)
- WB Left – LOS C to E/LOS C to E – evening peak (+31 sec/+31 sec)
- WB Through/Right – LOS D to F/LOS D to E – evening peak (+51 sec/+20 sec)
- NB Left – LOS D to F/LOS D to F – morning peak (+71 sec/+71 sec),  
LOS D to F/LOS D to F – evening peak (+88 sec/+88 sec)

## NYS Route 31 @ Morgan Road

- Overall Intersection – LOS E to F/LOS E to F – morning peak (+48 sec/+41 sec)  
LOS F to F/LOS F to F – evening peak (+149 sec/+141 sec)  
LOS D to F/LOS D to F – Saturday peak (+105 sec/+105 sec)
- EB Left – LOS D to E/LOS D to E – Saturday peak (+1 sec/+1 sec)
- EB Through – LOS E to F – morning peak (+36 sec)  
LOS D to F/LOS D to F – evening peak (+85 sec/+85 sec)  
LOS D to E/LOS D to E – Saturday peak (+30 sec/+30 sec)
- WB Through – LOS D to F/LOS D to F – evening peak (+95 sec/+55 sec)  
LOS D to F/LOS D to F – Saturday peak (+179 sec/+173 sec)
- NB Left – LOS F to F/LOS F to F – morning peak (+300 sec/+300 sec)  
LOS F to F/LOS F to F – evening peak (+167 sec/+167 sec)  
LOS D to F/LOS D to F – Saturday peak (+237 sec/+237 sec)
- NB Through – LOS D to F/LOS D to F – evening peak (+315 sec/+315 sec)  
LOS C to F/LOS C to F – Saturday peak (+57 sec/+57 sec)
- SB Left – LOS C to F/LOS C to F – evening peak (+84 sec/+84 sec)
- SB Through/Right – LOS F to F/LOS F to F – morning peak (+128 sec/+128 sec)  
LOS F to F/LOS F to F – evening peak (+731 sec/+731 sec)  
LOS D to F/LOS D to F – Saturday peak (+200 sec/+200 sec)

## NYS Route 31 @ Great Northern Mall East / Lazy Boy

- Overall Intersection – LOS A to F/LOS A to F – evening peak (+132 sec/+108 sec)  
LOS A to F/LOS A to F – Saturday peak (+100 sec/+92 sec)
- WB Through – LOS C to F/LOS C to F – evening peak (+499 sec/+255 sec)  
LOS B to F/LOS B to F – Saturday peak (+446 sec/+253 sec)
- SB Left/Through – LOS D to F/LOS D to F – evening peak (+44 sec/+44 sec)  
LOS B to F/LOS B to F – Saturday peak (+59 sec/+59 sec)
- SB Right – LOS A to E/LOS A to E – evening peak (+64 sec/+63 sec)

## NYS Route 31 @ Great Northern Mall West / OC Health

- Overall Intersection – LOS B to F/LOS B to F – evening peak (+185 sec/+102 sec)  
LOS B to F/LOS B to F – Saturday peak (+122 sec/+74 sec)
- EB Left – LOS A to F/LOS A to E – morning peak (+126 sec/+65 sec)  
LOS A to F/LOS A to F – evening peak (+132 sec/+108 sec)  
LOS A to F/LOS A to F – Saturday peak (+100 sec/+92 sec)
- WB Through/Right – LOS A to F/LOS A to F – morning peak (+204 sec/+157 sec)  
LOS A to F/LOS A to F – Saturday peak (+113 sec/+111 sec)
- SB Left/Through – LOS C to E/LOS C to E – morning peak (+31 sec/+31 sec)  
LOS D to F/LOS D to F – evening peak (+147 sec/+147 sec)  
LOS D to F/LOS D to F – Saturday peak (+256 sec/+256 sec)



## NYS Route 31 @ Marketfair North Plaza

- Overall Intersection – LOS D to E – evening peak (+21 sec)  
LOS B to E – Saturday peak (+43 sec)
- WB Through – LOS E to F – evening peak (+35 sec)  
LOS A to E/LOS A to E – Saturday peak (+61 sec/+56 sec)
- NB Left – LOS D to E/LOS D to E – Saturday peak (+38 sec/+38 sec)

## NYS Route 31 @ Route 481 NB Ramps

- Overall Intersection – LOS B to F – morning peak (+68 sec)  
LOS D to F/LOS D to F – evening peak (+205 sec/+154 sec)  
LOS C to F/LOS C to F – Saturday peak (+71 sec/+52 sec)
- EB Through – LOS A to E/LOS A to E – morning peak (+205 sec/+154 sec)
- WB Through – LOS F to F/LOS F to F – evening peak (+479 sec/+344 sec)  
LOS C to F/LOS C to F – Saturday peak (+175 sec/+142 sec)
- NB Left – LOS D to F/LOS D to F – evening peak (+44 sec/+51 sec)
- NB Left/Through – LOS D to F/LOS D to F – evening peak (+44 sec/+51 sec)
- NB Right – LOS B to F/LOS B to F – morning peak (+228 sec/+120 sec)  
LOS B to E – evening peak (+48 sec)  
LOS B to F/LOS B to F – Saturday peak (+198 sec/+109 sec)

## NYS Route 31 @ Route 481 SB Ramps

- Overall Intersection – LOS C to F/LOS C to F – morning peak (+91 sec/+74 sec)  
LOS C to F/LOS C to F – evening peak (+114 sec/+89 sec)  
LOS C to F/LOS C to E – Saturday peak (+71 sec/+55 sec)
- EB Through – LOS D to F/LOS D to F – morning peak (+185 sec/+180 sec)  
LOS D to F/LOS D to F – evening peak (+112 sec/+105 sec)  
LOS C to F/LOS C to F – Saturday peak (+100 sec/+94 sec)
- WB Left – LOS D to F/LOS D to F – morning peak (+254 sec/+179 sec)  
LOS D to F/LOS D to F – evening peak (+390 sec/+292 sec)  
LOS D to F/LOS D to F – Saturday peak (+300 sec/+208 sec)
- WB Through – LOS C to F/LOS C to E – evening peak (+59 sec/+52 sec)
- SB Left – LOS D to F – morning peak (+54 sec)

## NYS Route 31 @ Wegmans/Raymour &amp; Flanigan

- Overall Intersection – LOS C to F/LOS C to E – evening peak (+50 sec/+44 sec)  
LOS C to E – Saturday peak (+26 sec)
- WB Through – LOS D to F/LOS D to F – evening peak (+117 sec/+106 sec)  
LOS C to F/LOS C to E – Saturday peak (+55 sec/+45 sec)

## NYS Route 31 @ Carling Road

- Overall Intersection – LOS D to F/LOS D to F – evening peak (+58 sec/+53 sec)
- WB Through – LOS D to F/LOS D to F – evening peak (+140 sec/+128 sec)  
LOS C to F/LOS C to F – Saturday peak (+74 sec/+61 sec)

## NYS Route 31 @ Dell Center Drive/Willowfield Elementary Road

- Overall Intersection – LOS C to E – Saturday peak (+33 sec)
- WB Through – LOS B to F/LOS B to F – evening peak (+77 sec/+67 sec)  
LOS C to F/LOS C to F – Saturday peak (+85 sec/+73 sec)

## NYS Route 31 @ Home Depot/Lowes

- Overall Intersection – LOS D to F/LOS D to E – evening peak (+48 sec/+43 sec)



LOS D to E/LOS D to E – Saturday peak (+24 sec/+19 sec)

- WB Through – LOS D to F/LOS D to F – evening peak (+134 sec/+121 sec)  
LOS C to F/LOS C to F – Saturday peak (+89 sec/+74 sec)
- SB Left – LOS D to E/LOS D to E – evening peak (+2 sec/+2 sec)
- SB Left/Through – LOS D to E/LOS D to E – evening peak (+2 sec/+2 sec)

NYS Route 31 @ Taxes Roadhouse/Delta Sonic

- WB Through – LOS B to F/LOS B to F – evening peak (+72 sec/+63 sec)

NYS Route 31 @ Oswego Road

- Overall Intersection – LOS D to F/LOS D to F – morning peak (+45 sec/+46 sec)  
LOS D to F/LOS D to F – evening peak (+66 sec/+64 sec)  
LOS E to F/LOS E to F – Saturday peak (+49 sec/+46 sec)
- EB Through/Right – LOS D to F/LOS D to F – morning peak (+86 sec/+86 sec)  
LOS D to F/LOS D to F – evening peak (+90 sec/+90 sec)  
LOS E to F/LOS E to F – Saturday peak (+123 sec/+123 sec)
- WB Left – LOS D to E/LOS D to E – evening peak (+5 sec/+5 sec)
- WB Through/Right – LOS D to F/LOS D to F – evening peak (+102 sec/+96 sec)
- NB Right – LOS E to F/LOS E to F – evening peak (+9 sec/+9 sec)

Verplank Road @ Caughdenoy Road

- EB Left/Right – LOS B to E – morning peak (+22 sec)  
LOS F to F/LOS F to F – evening peak (+568 sec/+1860 sec)

Verplank Road @ Morgan Road

- EB Left/Through/Right – LOS F to F/LOS F to F – morning peak (+363 sec/+549 sec)  
LOS F to F/LOS F to F – evening peak (err/err)  
LOS D to F/LOS D to F – Saturday peak (err/err)
- WB Left/Through/Right – LOS F to F/LOS F to F – morning peak (err/err)  
LOS F to F/LOS F to F – evening peak (err/err)  
LOS E to F/LOS E to F – Saturday peak (err/err)

Verplank Road @ Oswego Road

- EB Left/Through/Right – LOS C to E/LOS C to E – Saturday peak (+19 sec/+24 sec)

Soule Road @ 481 SB Onramp

- Overall Intersection – LOS C to F/LOS C to F – morning peak (+89 sec/+53 sec)  
LOS B to F/LOS B to F – evening peak (+139 sec/+86 sec)  
LOS A to F – Saturday peak (+74 sec)
- NB Through/Right – LOS D to F/LOS D to F – morning peak (+88 sec/+79 sec)  
LOS C to E/LOS C to E – evening peak (+48 sec/+43 sec)
- SB Left – LOS C to F/LOS C to F – morning peak (+101 sec/+52 sec)  
LOS C to F/LOS C to F – evening peak (+314 sec/+202 sec)  
LOS A to F/LOS A to F – Saturday peak (+175 sec/+100 sec)

Morgan Road @ Existing Mall Access

- EB Left/Right – LOS B to E/LOS B to E – morning peak (+29 sec/+29 sec)  
LOS C to F/LOS C to F – evening peak (+621 sec/+621 sec)  
LOS A to F/LOS A to F – Saturday peak (+566 sec/+566 sec)

NYS Route 31 @ Proposed Mall Access

- SB Left/Right – LOS F/LOS F – evening peak (2506 sec/1928 sec)  
LOS F/LOS F – Saturday peak (536 sec/536 sec)



Verplank Road @ Route 481 NB Ramps

- SB Left/Right – LOS F – Saturday peak (65 sec)

The detailed Level of Service & queue summary, and capacity analysis printouts, have been attached.

### 3.9 Mitigation Measures

The identified capacity deficiencies in the study area under the build conditions are notably the result of the combination of the projected Micron traffic and the Great Northern Mall redevelopment traffic.

To the west of the Route 481 interchange on NYS Route 31, the primary deficiency is a lack of capacity for the westbound through movement during the evening peak hour. The intersection of NYS Route 31 with Oswego Road is at or over capacity under the background conditions and is significantly impacted by the additional traffic generated by the proposed development. Some level of the recommended mitigation in this area should be contributed to by both developments.

The NYS Route 31/Route 481 interchange is at or over capacity under the background condition and is significantly impacted by the additional traffic generated by the Great Northern Mall redevelopment.

To the east of the site, there are significant failing operations at the Morgan Road intersections with NYS Route 31 and Verplank Road under the background conditions associated with the Micron development which continue to worsen with the additional site generated traffic. Some level of the recommended mitigation in this area should be contributed to both developments.

The following mitigation measures have been identified in the overall study area:

- NYS Route 31 @ Route 481 Interchange
  - o Reconstruct the interchange as a diverging diamond interchange (DDI) with signalized east/west crossings at the northbound and southbound ramps and signalized control at the left and right offramp movements both northbound and southbound.
    - Provide 3 through lanes eastbound from the Raymour & Flanigan intersection through the DDI, terminating the third inside lane as the outside left turn lane into the Great Northern Mall west driveway.
      - Remove the existing eastbound right turn only lane at Marketfair North.
    - Provide 3 through lanes westbound from the Great Northern Mall east driveway through the DDI, terminating the third lane after the Delta Sonic/Texas Roadhouse signalized intersection.
      - Maintain the auxiliary westbound right turn lanes at Great North Mall West, Wegmans, Carling Road, Dell Center Drive, and Home Depot.
  - o Extend Pepperidge Way (Carling Road) to Soule Road opposite the Route 481 southbound onramp.
    - Convert Soule Road to southbound only between NYS Route 31 and the Route 481 southbound onramp.
    - Convert the existing northbound lane on Soule Road at the Route 481 southbound onramp to left turn only movements onto the roadway extension.
    - Construct a 200 foot northbound right lane on Soule Road at the Route 481 onramp with channelization and yield control.
    - Restrict the eastbound Pepperidge Way extension to right turn only movements onto Soule Road southbound.
    - Update the traffic signal at the Soule Road/Route 481 southbound onramp as necessary to accommodate the revised layout.
- NYS Route 31 @ Caughdenoy Road



- o Add protected/permitted eastbound left turn phasing.
  - o Construct a 200 foot southbound right turn lane.
- NYS Route 31 @ Henry Clay Boulevard
  - o Construct a 2<sup>nd</sup> northbound left turn lane.
- NYS Route 31 @ Morgan Road
  - o Construct second northbound and southbound through lanes through the intersection.
  - o Construct a 2<sup>nd</sup> northbound left turn lane.
  - o Construct a 250 foot southbound right turn lane.
  - o Construct a 250 foot westbound right turn lane.
- NYS Route 31 @ Proposed Access
  - o Restrict left turns exiting the site.
- NYS Route 31 @ Great Northern Mall East Access
  - o Construct a 300 westbound right turn lane.
  - o Construct a 2<sup>nd</sup> southbound left turn lane.
- NYS Route 31 @ Carling Road
  - o Construct a 250 foot northbound right turn lane.
- NYS Route 31 @ Oswego Road
  - o Construct a 250 foot eastbound right turn lane.
  - o Construct a 250 foot westbound right turn lane.
  - o Construct a 2<sup>nd</sup> northbound right turn lane.
- Verplank Road @ Caughdenoy Road
  - o Construct a 200 foot northbound left turn lane.
  - o Install a two phase traffic signal.
- Verplank Road @ Henry Clay Boulevard
  - o Install a two phase traffic signal.
- Verplank Road @ Morgan Road
  - o Construct a 200 foot northbound right turn lane.
  - o Construct a 200 foot westbound right turn lane.
  - o Install a two phase traffic signal.
- Morgan Road @ Existing Site Access
  - o Construct a 200 foot eastbound right turn lane.
  - o Install a two phase traffic signal.
- Verplank Road @ Route 481 Northbound Ramps (Verplank Interchange Alternative Only)
  - o Construct a 200 westbound right turn lane.

With the proposed modifications noted above, all traffic movements are generally projected to operate consistent with background traffic operations at both the signalized and unsignalized intersections in the study area. The Verplank interchange is a critical feature in the mitigation as it is projected to draw 400-500 vehicles away from the NYS Route 31 corridor during the peak hours.

The following provides a brief discussion on the projected impacts at each study area intersection:



NYS Route 31 @ Caughdenoy Road – Without the Verplank Road interchange, the intersection will potentially have failing levels of delay on the westbound approach during the evening peak hour. There will also be some longer delays on the northbound approach at LOS E regardless of whether the Verplank Interchange is constructed or not. Additional improvements should be considered at this location associated with the Micron development.

NYS Route 31 @ Henry Clay Boulevard – The intersection is projected to operate at an overall Level of Service D or better with all movements operating at Level of Service E or better with the proposed mitigation and the Verplank Road interchange. The proposed interchange will draw some Micron traffic away from NYS Route 31 which will reduce westbound delays during the evening peak hour.

NYS Route 31 @ Morgan Road – The intersection is projected to have multiple failing level delays during the morning and evening peak hours associated with the Micron development traffic. While the intersection will continue to have long delays during the morning and evening peak hours, the proposed mitigation will substantially offset the projected impacts from the Great Northern Mall redevelopment traffic. Additional improvements should be considered at this intersection associated with the Micron development.

NYS Route 31 @ Great North Mall East – The proposed mitigation along with the proposed Verplank Road interchange will result in acceptable Levels of Service during the three peak hours. Without the interchange, there are longer delays for the westbound through and eastbound left turn movements expected, particularly during the evening peak hour.

NYS Route 31 @ Great North Mall West – The proposed mitigation along with the proposed Verplank Road interchange will result in acceptable Levels of Service during the three peak hours. Without the interchange, there are longer delays for the westbound through and eastbound left turn movements expected, particularly during the evening and Saturday peak hours.

NYS Route 31 @ Marketfair North – The proposed mitigation along will result in acceptable Levels of Service during the three peak hours with or without the Verplank Road interchange. There may be some longer delays for the eastbound through movement during the Saturday peak hour which can likely be addressed through signal coordination adjustments as development is completed.

NYS Route 31 @ Route 481 Interchange – The proposed mitigation along with the proposed Verplank Road interchange will result in acceptable Levels of Service during the three peak hours.

NYS Route 31 @ Wegmans/Raymour & Flanigan – The proposed mitigation along with the proposed Verplank Road interchange will result in acceptable Levels of Service consistent with the background condition during the three peak hours.

NYS Route 31 @ Carling Road – The proposed mitigation along with the proposed Verplank Road interchange will result in acceptable Levels of Service consistent with the background condition during the three peak hours.

NYS Route 31 @ Dell Center Drive/Willowfield Elementary – The proposed mitigation along with the proposed Verplank Road interchange will result in acceptable Levels of Service consistent with the background condition during the three peak hours.

NYS Route 31 @ Home Depot/Lowes – The proposed mitigation along with the proposed Verplank Road interchange will result in acceptable Levels of Service consistent with the background condition during the three peak hours.



NYS Route 31 @ Texas Roadhouse/Delta Sonic – The proposed mitigation along with the proposed Verplank Road interchange will result in acceptable Levels of Service consistent with the background condition during the three peak hours.

NYS Route 31 @ Oswego Road – The proposed mitigation along with the proposed Verplank Road interchange will result in acceptable Levels of Service consistent with the background condition during the three peak hours. Without the Verplank Road interchange, there may be longer delays on the southbound left turn movement, primarily during the evening and Saturday peak hours.

Verplank Road @ Caughdenoy Road – The proposed mitigation will result in acceptable Levels of Service with or without the proposed Verplank Road interchange. It is noted that there are failing operations at this intersection under the background condition with just the Micron development.

Verplank Road @ Henry Clay Boulevard – The proposed mitigation will result in acceptable Levels of Service with or without the proposed Verplank Road interchange.

Verplank Road @ Morgan Road – The proposed mitigation will result in acceptable Levels of Service with or without the proposed Verplank Road interchange. It is noted that there are failing operations at this intersection under the background condition with just the Micron development.

Verplank Road @ Oswego Road – There acceptable Levels of Service without mitigation at this intersection.

Soule Road @ Oswego Road – There are no notable impacts projected at this intersection.

Morgan Road @ Existing Mall Access – The proposed mitigation will result in acceptable Levels of Service with or without the proposed Verplank Road interchange.

Proposed Site Driveways – All movements are projected to operate within acceptable ranges with or without the proposed Verplank Road interchange.

Verplank Road Interchange – All movements are projected to operate within acceptable ranges during the three peak hour with the proposed mitigation. Projected traffic volumes do not warrant signalization.

The detailed Level of Service & queue summary, and capacity analysis printouts, have been attached.

## **4.0 Crash Analysis**

The purpose of this crash analysis is to identify safety problems by studying and quantifying accidents within and immediately adjacent to the driveway, and identifying abnormal patterns and clusters. An accident cluster is defined as an abnormal occurrence of similar accident types occurring at approximately the same location or involving the same geometric features. The severity of the accidents should also be considered. A history of accidents is an indication that further analysis is required to determine the cause(s) of the accident(s) and to identify what actions, if any, could be taken to mitigate the accidents.

A crash analysis was performed per Highway Design Manual Chapter 5 on NYS Route 31, Verplank Road, Oswego Road, Soule Road, Morgan Road, Henry Clay Boulevard, and Caughdenoy Road in the study area.

### **Existing Crash Data**

An accident analysis was completed for NYS Route 31, Verplank Road, Oswego Road, Soule Road, Morgan Road, Henry Clay Boulevard, and Caughdenoy Road within the study area using history reports obtained for a three year period from January 2021 through December 2023. Over the three year period, there were 688 total accidents in the study area.



Forty-Four (44) accidents occurred at the NYS Route 31/Oswego Road intersection including 37 rearend accidents, 2 right angle accidents, 2 left turn accidents, 2 sideswipe accidents and 1 fixed object accident. The predominant accident types are rearend accidents which are most common at a signalized intersection. The intersection accident rate is above the statewide average rate for similar facilities.

Two (2) rearend accidents occurred at the NYS Route 31/Davidson intersection. The intersection accident rate is below the statewide average rate for similar facilities.

Thirty-Two (32) accidents occurred at the NYS Route 31/Home Depot/Lowes intersection including 25 rearend accidents, 3 right turn accidents, 2 left turn accidents, 1 right angle accident and 1 sideswipe accident. The predominant accident types are rearend accidents which are most common at a signalized intersection. The intersection accident rate is above the statewide average rate for similar facilities.

Twenty-Six (26) accidents occurred at the NYS Route 31/Dell Center Drive intersection including 14 rearend accidents, 7 right angle accidents, 2 sideswipe accidents, 2 left turn accidents and 1 fixed object accident. The predominant accident types are rearend accidents which are most common at a signalized intersection. The intersection accident rate is above the statewide average rate for similar facilities.

Fifty (50) accidents occurred at the NYS Route 31/Carling Road intersection including 36 rearend accidents, 3 right angle accidents, 3 right turn accidents, 5 left turn accidents, 2 sideswipe accidents, and 1 backing accident. The predominant accident types are rearend accidents which are most common at a signalized intersection. The intersection accident rate is above the statewide average rate for similar facilities.

Six (6) accidents occurred at the NYS Route 31/Wegmans/Raymour & Flanigan intersection including 3 rearend accidents, 1 right angle accident, 1 sideswipe accident, and 1 backing accident. The intersection accident rate is below the statewide average rate for similar facilities.

Fifty-One (51) accidents occurred at the NYS Route 31/Route 481 Southbound Ramp/Soule Road intersection including 40 rearend accidents, 5 sideswipe accidents, 3 right angle accidents, 2 fixed object accidents and 1 left turn accident. The predominant accident types are rearend accidents which are most common at a signalized intersection. The intersection accident rate is above the statewide average rate for similar facilities.

Forty-Two (42) accidents occurred at the NYS Route 31/Route 481 Northbound Ramps intersection including 28 rearend accidents, 5 left turn accidents, 4 sideswipe accidents, 3 right angle accidents, 1 backing accident, and 1 fixed object accident. The predominant accident types are rearend accidents which are most common at a signalized intersection. The intersection accident rate is above the statewide average rate for similar facilities.

Fifteen (15) accidents occurred at the NYS Route 31/Marketfair Plaza intersection including 8 rearend accidents, 4 right angle accidents, 2 left turn accidents, and 1 right turn accident. The predominant accident types are rearend accidents which are most common at a signalized intersection. The intersection accident rate is above the statewide average rate for similar facilities.

Seven (7) accidents occurred at the NYS Route 31/Great Northern Mall East/Lazy Boy intersection including 4 rearend accidents and 3 left turn accidents. The intersection accident rate is below the statewide average rate for similar facilities.

Forty-Three (43) accidents occurred at the NYS Route 31/Morgan Road intersection including 24 rearend accidents, 15 left turn accidents, 2 right angle accidents, 1 right turn accidents, and 1 sideswipe accident. The predominant accident types are rearend accidents which are most common at a signalized



intersection. The intersection accident rate is above the statewide average rate for similar facilities.

Twenty-Two (22) accidents occurred at the NYS Route 31/Henry Clay Boulevard intersection including 10 rearend accidents, 5 left turn accidents, 3 sideswipe accidents, 2 right turn accidents, 1 animal related accident, and 1 fixed object accident. The predominant accident types are rearend accidents which are most common at a signalized intersection. The intersection accident rate is above the statewide average rate for similar facilities.

Seventeen (17) accidents occurred at the NYS Route 31/Caughdenoy Road intersection including 8 rearend accidents, 4 left turn accidents, 3 right angle accidents, 1 right turn accident, and 1 fixed object accident. The predominant accident types are rearend accidents which are most common at a signalized intersection. The intersection accident rate is above the statewide average rate for similar facilities.

Three (3) accidents occurred at the Verplank Road/Oswego Road intersection including 1 right angle accidents, 1 left turn accident, and 1 fixed object accident. The intersection accident rate is above the statewide average rate for similar facilities.

Nine (9) accidents occurred at the Verplank Road/Morgan Road intersection including 6 right angle accidents 3 rearend accidents. The intersection accident rate is above the statewide average rate for similar facilities.

One (1) right angle accident occurred at the Verplank Road/Henry Clay Boulevard intersection. The intersection accident rate is below the statewide average rate for similar facilities.

Ten (10) accidents occurred at the Soule Road/Route 481 Southbound Ramp intersection including 5 rearend accidents, 2 left turn accidents, 1 sideswipe accident, 1 fixed object accident, and 1 right turn accident. The predominant accident types are rearend accidents which are most common at a signalized intersection. The intersection accident rate is above the statewide average rate for similar facilities.

Nineteen (19) accidents occurred at the Oswego Road/Soule Road intersection including 14 rearend accidents, 3 right turn accidents, 1 right angle accident, and 1 sideswipe accident. The predominant accident types are rearend accidents which are most common at a signalized intersection. The intersection accident rate is above the statewide average rate for similar facilities.

Along NYS Route 31, there were 113 total midblock accidents including 44 rearend accidents, 35 sideswipe accidents, 13 animal related accidents, 10 fixed object accidents, 4 left turn accidents, 3 non-collision accidents, 1 right angle accident, 1 right turn accident, and 1 head on accident. The link accident rate is below the statewide average rate for similar facilities.

Along Verplank Road, there were 20 total midblock accidents including 11 fixed object accidents, 5 animal related accidents, 3 sideswipe accidents, and 1 rearend accident. The link accident rate is below the statewide average rate for similar facilities.

Along Oswego Road, there were 44 total midblock accidents including 12 animal related accidents, 9 sideswipe accidents 9 left turn accidents, , 6 rearend accidents, 4 fixed object accidents, 2 right angle accidents, 1 right turn accident, and 1 head on accident. The link accident rate is below the statewide average rate for similar facilities.

Along Soule Road, there were 26 total midblock accidents including 12 rearend accidents, 4 sideswipe accidents, 5 fixed object accidents, 4 left turn accidents, and 1 animal related accident. The link accident rate is below the statewide average rate for similar facilities.



Along Morgan Road, there were 10 total midblock accidents including 5 animal related accidents, 2 backing accidents, 1 left turn accident, 1 fixed object accident, and 1 sideswipe accident. The link accident rate is below the statewide average rate for similar facilities.

Along Henry Clay Boulevard, there was 1 animal related accident. The link accident rate is below the statewide average rate for similar facilities.

Along Caughdenoy Road, there were 7 total midblock accidents including 4 animal related accidents, 2 fixed object accidents, and 1 left turn accident. The link accident rate is above the statewide average rate for similar facilities.

There were 2 accidents along Dell Center Drive, 1 accident along Carling Road, 1 accident along the Route 481 Northbound Ramp, 1 accident on McNamara Drive, 1 accident on mainline Route 481, and 62 accidents in area parking lots included in the data.

Of the accidents, 588 (85%) were non-reportable or property damage only accidents. There were 100 injury accidents with no fatalities.

#### 4.2 Compare Rates to Accepted Values

The following table provides a comparison of the existing accident rates to the statewide average rate for similar facilities:

| Intersection and Link Accident Rates |                                       |                                                |
|--------------------------------------|---------------------------------------|------------------------------------------------|
| Intersection / Link                  | Calculated Intersection Accident Rate | Statewide Accident Rate for Similar Facilities |
| NYS Route 31 @ Oswego Road           | 0.98 acc/mev                          | 0.53 acc/mev                                   |
| NYS Route 31 @ Davidson              | 0.06 acc/mev                          | 0.31 acc/mev                                   |
| NYS Route 31 @ Home Depot/Lowes      | 0.71 acc/mev                          | 0.53 acc/mev                                   |
| NYS Route 31 @ Dell Center Drive     | 0.67 acc/mev                          | 0.53 acc/mev                                   |
| NYS Route 31 @ Carling Road          | 1.17 acc/mev                          | 0.53 acc/mev                                   |
| NYS Route 31 @ Wegmans               | 0.14 acc/mev                          | 0.53 acc/mev                                   |
| NYS Route 31 @ Route 481 SB          | 0.98 acc/mev                          | 0.53 acc/mev                                   |
| NYS Route 31 @ Route 481 NB          | 0.98 acc/mev                          | 0.53 acc/mev                                   |
| NYS Route 31 @ Marketfair Plaza      | 0.49 acc/mev                          | 0.31 acc/mev                                   |
| NYS Route 31 @ GNM East/Lazy Boy     | 0.28 acc/mev                          | 0.53 acc/mev                                   |
| NYS Route 31 @ Morgan Road           | 1.32 acc/mev                          | 0.53 acc/mev                                   |
| NYS Route 31 @ Henry Clay Blvd       | 0.98 acc/mev                          | 0.53 acc/mev                                   |
| NYS Route 31 @ Caughdenoy            | 1.01 acc/mev                          | 0.53 acc/mev                                   |
| Verplank Road @ Oswego Road          | 0.34 acc/mev                          | 0.28 acc/mev                                   |
| Verplank Road @ Morgan Road          | 0.72 acc/mev                          | 0.28 acc/mev                                   |
| Verplank Road @ Henry Clay           | 0.18 acc/mev                          | 0.28 acc/mev                                   |
| Soule Road @ Route 481 SB Ramp       | 0.47 acc/mev                          | 0.31 acc/mev                                   |
| Soule Road @ Oswego Road             | 0.57 acc/mev                          | 0.53 acc/mev                                   |
|                                      |                                       |                                                |
| NYS Route 31 Midblock                | 1.09 acc/mvm                          | 3.46 acc/mvm                                   |
| Verplank Road Midblock               | 2.27 acc/mvm                          | 2.27 acc/mvm                                   |
| Oswego Road Midblock                 | 1.10 acc/mvm                          | 3.46 acc/mvm                                   |
| Soule Road Midblock                  | 1.38 acc/mvm                          | 2.32 acc/mvm                                   |
| Morgan Road Midblock                 | 2.11 acc/mvm                          | 2.32 acc/mvm                                   |
| Henry Clay Boulevard Midblock        | 0.63 acc/mvm                          | 2.32 acc/mvm                                   |



|                          |              |              |
|--------------------------|--------------|--------------|
| Caughdenoy Road Midblock | 3.14 acc/mvm | 2.32 acc/mvm |
|--------------------------|--------------|--------------|

Acc/mev = Accidents per million entering vehicles  
Acc/mvm = Accidents per million vehicle-miles